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ABSTRACT

This evaluation report is the third in a series of reports that are part of a 4-year national effort designed to describe the types of Even Start projects that have been funded, the services provided, the collaboration efforts undertaken, and the obstacles to program implementation that have been encountered. The current report provides information about the first 2 cohorts of Even Start projects, 76 that began in 1989 and 47 that began in 1990. The first six sections of the report describe the background, design, and characteristics of the Even Start program, its participants, and its core services. Section seven examines approaches to assessing the short-term effects of the Even Start program on the participants. Sections 8 through 11 discuss in detail the effects of the program on children, parent literacy, parenting skills, and families. Section 12 reviews the cost of the program, while section 13 summarizes the entire report. (Contains 69 references.) (MDM)

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ED 365 476

NATIONAL EVALUATION OF THE EVEN START FAMILY LITERACY PROGRAM

REPORT ON EFFECTIVENESS

Prepared by:

Robert St.Pierre
Janet Swartz
Abt Associates Inc.

Stephen Murray
Dennis Deck
Phil Nickel
RMC Research Corporation

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The National Evaluation of the Even Start Family Literacy Program is a large, long-term study which requires the ongoing assistance of Even Start projects across the country. Special thanks are due to all of the Even Start project directors, project evaluators, and other staff members who are working to make the national evaluation an exemplary study. Special thanks go to the project directors and other staff from ten Even Start projects participating in an In-Depth Study. These projects are located in Birmingham, Alabama, Phoenix, Arizona, Golden, Colorado, Indianapolis, Indiana, Waterville, Maine, Billings, Montana, Albuquerque, New Mexico, Reading, Pennsylvania, Estill, South Carolina, and Richmond, Virginia.

The evaluation has benefitted from the input of many researchers who participate on an ongoing basis as members of the project's Technical Work Group. Members include Phoebe Cottingham from the Rockefeller Foundation, Sharon Darling from the National Center for Family Literacy, Richard Light from Harvard University, Vonnie McLoyd from the University of Michigan, and Thomas Sticht from Applied Behavioral and Cognitive Sciences, Inc. The Technical Work Group also includes three Even Start representatives: Wilma Harry, director of the Even Start project in Indianapolis, Indiana; Kathy Hinchman, local evaluator of the Even Start project in Syracuse, New York; and Lisa Levinson, director of the Even Start project in Waterville, Maine.

Staff of the Office of Policy and Planning in the U.S. Department of Education are responsible for oversight of the evaluation. As Project Officer, Nancy Rhett oversees all planning, implementation, and reporting activities for the evaluation.

As prime contractor for the evaluation, Abt Associates Inc. is responsible for the entire evaluation and has specific responsibility for the In-Depth Study. Key staff at Abt Associates Inc. include Robert St.Pierre, Janet Swartz, Beth Gamse, Fred Glantz, Ruth Nickse, Marc Moss and Maureen Hume. As subcontractor, RMC Research Corporation is responsible for implementing the National Evaluation Information System. Key staff at RMC include Stephen Murray, Dennis Deck, Phil Nickel, Donna Dreis, and Alison Baker.

Preface

The National Evaluation of the Even Start Family Literacy Program is a four-year national effort designed to describe the types of Even Start projects that have been funded, the services provided, the collaborative efforts undertaken, and the obstacles to program implementation that have been encountered. The evaluation also describes the families participating in Even Start, the services they receive, and the effects of Even Start participation on children's school readiness; parent's literacy, parenting, and personal skills; and family stability and resources. Finally, the evaluation provides assistance to Even Start projects to conduct locally-designed evaluations, and to prepare and submit applications to the Department of Education for entry into the National Diffusion Network.

This is the third report from the National Even Start Evaluation. It provides information about the first two cohorts of Even Start project (76 projects first funded in the fall of 1989 and 47 projects first funded in the fall of 1990). Data for this report reflect the operations and effectiveness of Even Start projects as they were implemented in the 1989-90, 1990-91, and 1991-92 school years.

The first six sections of this report provide descriptive data which update material contained in earlier reports. The latter sections of the report contain new information about the costs and effectiveness of Even Start.

Section One

Program Background

Until recently, the Nation's literacy problems have been addressed through a dual system of public and private sector programs: (1) remediation programs for adults in the form of adult education or workplace literacy programs, and (2) prevention programs for children through early childhood education efforts such as Head Start (Barbara Bush Foundation, 1989). The seeds of a new approach were sown in the late 1970s and early 1980s when many of the first "family literacy" programs were planned and implemented. Drawing on the experiences of existing early intervention and adult literacy programs, family literacy programs are based on the beliefs that children's early learning is greatly influenced by their parents, that parents must develop and value their own literacy skills in order to support their children's educational success, and that parents are their children's first and best teachers.

In the late 1980s this new approach emerged in full force as family literacy programs proliferated under a very wide range of sponsors including state governments (e.g., Kentucky's PACE program), school districts (e.g., the Marin, California Library Family Literacy Program), private foundations (e.g., the Kenan Charitable Trust's Family Literacy Program), private corporations (e.g., Stride Rite's Intergenerational Day Care program), and universities (e.g., El Paso State College's Family Intergenerational English Literacy Program). The movement attained national status in 1989 when the federal government instituted its family literacy centerpiece, the Even Start program.

The Even Start Family Literacy Program

The Even Start Family Literacy Program was authorized by the Elementary and Secondary Education Act of 1965 as amended by the Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988, Part B of Chapter 1 of Title I (P.L. 100-297). In 1991, Congress passed the National Literacy Act (P.L. 102-73) which amended the Even Start program. According to the law, the Even Start program is intended to:

> *...improve the educational opportunities of the Nation's children and adults by integrating early childhood education and adult education for parents into a unified program....The program shall be implemented through cooperative projects that build on existing community resources to create a new range of services. (P.L. 100-297, Sec. 1051).*

To be eligible for Even Start, a family must have an adult who is eligible to participate in an adult education program under the Adult Education Act, and who is a parent of a child less than eight years of age who lives in a Chapter 1 elementary school attendance area. Even Start projects must provide participating families with an integrated program of early

childhood education, adult basic skills training, and parenting education. The program's design is based on the notion that these components build on each other and that families need to receive all three services, not just one or two, in order to effect lasting change and improve children's school success. As a "family-focused" rather than parent- or child-focused program, Even Start has three interrelated goals:

- to help parents become full partners in the education of their children,
- to assist children in reaching their full potential as learners, and
- to provide literacy training for their parents.

To achieve these goals, Even Start began as a demonstration program administered by the U.S. Department of Education (ED) that provided school districts with four-year discretionary grants for family literacy projects. In 1992, the program, while remaining a competitive discretionary grant program, became primarily administered by the states, although two small set-asides remain for direct Federal grants for Migrant Education projects and grants to Indian tribes and tribal organizations. According to the Even Start statute, when the program is funded for $50 million or more per year, it must be administered at the state level. Each state's share of Even Start funds is based on its proportion of Chapter 1 Basic Grants funds. States hold grant competitions and make subgrant awards. The statute specifies that each Even Start subgrantee must receive a minimum of $75,000 per year. Exhibit 1.1 summarizes Even Start's funding history and Exhibit 1.2 shows the location of Even Start projects.

Exhibit 1.1

Even Start Funding History

Fiscal Year	Federal Funding	Number of Projects
1989	$14,820,000	76
1990	$24,201,000	123
1991	$49,770,000	234
1992	$70,000,000	340 (est.)
1993	$89,123,000	440 (est.)
1994 request	$110,000,000	539 (est.)

Exhibit reads: In fiscal year 1991, $49.8 million of federal funding was used to provide Even Start grants to 234 local projects.

Source: U.S. Department of Education, Office of Policy and Planning.

Exhibit 1.2

Location of Even Start Projects
(Projects Funded in 1989, 1990, or 1991)

Source: U.S. Department of Education, Office of Policy and Planning, April 1993.

Mandate for the Evaluation

Section 1058 of the Even Start legislation requires an independent national evaluation of the projects funded under Even Start. This section reads as follows:

> *(a) Independent Annual Evaluation. The Secretary shall provide for the annual independent evaluation of programs under this part to determine their effectiveness in providing:*
>
> *(1) services to special populations;*
> *(2) adult education services;*
> *(3) parent training;*
> *(4) home-based programs involving parents and children;*
> *(5) coordination with related programs; and*
> *(6) training of related personnel in appropriate skill areas.*

(b) Criteria.

(1)Each evaluation shall be conducted by individuals not directly involved in the administration of the program or project operated under this part. Such independent evaluators and the program administrators shall jointly develop evaluation criteria which provide for appropriate analysis of the factors under subsection (a). When possible, each evaluation shall include comparisons with appropriate control groups.

(2)In order to determine a program's effectiveness in achieving its stated goals, each evaluation shall contain objective measures of such goals and, whenever feasible, shall obtain the specific views of program participants about such programs.

(3)Report to Congress and Dissemination. The Secretary shall prepare and submit to the Congress a review and summary of the results of such evaluations not later than September 30, 1993. The annual evaluations shall be submitted to the National Diffusion Network for consideration for possible dissemination.

In January 1990, the Office of Policy and Planning in the U.S. Department of Education (ED) awarded a contract to Abt Associates Inc., with a subcontract to RMC Research Corporation, for an evaluation of the Even Start program. The evaluation, which runs from 1990 through 1993, requires the design and implementation of a four-part evaluation and includes annual reports to be delivered to ED as well as a final report to Congress.

The evaluation assists ED and the general public in two main ways. First, it enables ED to fulfill the legislative requirement for an evaluation of the Even Start program. Second, it provides information needed for program improvement and administration by the Department of Education and States. Third, it adds to the knowledge base on the effects of family literacy programs by investigating the relationships between program processes and outcomes.

Section Two

Program Design

The Even Start legislation contains language setting forth the major elements that must be the basis of each Even Start local project. However, the legislation allows grantees great flexibility in devising projects to meet local needs. Even Start encourages local staff to draw on available program models and to collaborate with existing service providers to create projects that are tailored to the needs of local families. Because of this, Even Start can be regarded as a "family literacy laboratory" in which many different strategies are being tried. Early evidence reveals that Even Start includes a fairly complete representation of the various adult education, parenting education, and early childhood education programs that exist in the nation today.

Exhibit 2.1 presents a conceptual model depicting the types of activities conducted by Even Start projects and the causal chain anticipated as a result of those activities. The projects are characterized as having a set of program inputs which influence the creation of program processes, which in turn lead to several sets of outcomes for parents and children. At each level (inputs, processes and outcomes), a set of contextual variables act as mediators. Examples of measurable indicators are provided for each major set of variables shown in the model.

The model shows that variation in local projects can be described along many dimensions. These include the collaboration strategy used by the project in deciding what services to provide directly and what services to provide through referrals; the characteristics of target children and adults (e.g., age of child, family language); the extent to which services for families are integrated (e.g., activities in parent education reinforce learning in adult education); the use of an existing educational model and materials for delivering early childhood and adult basic education services; strategies for recruiting and retaining program participants; the role that parents play in the project; and staff development activities.

Further, many Even Start projects use case managers, parent liaisons, or family advocates as key staff in the provision of coordinated services. Case managers conduct needs assessments and have ongoing contact with a number of families at centers and through home visits. They are responsible for the direct provision of some services as well as for ensuring that participating families take advantage of other services.

Three core Even Start services are required in the legislation:

> **Early childhood education**: services to meet the early education needs of children from birth through seven years of age, designed to enhance development and prepare children for success in school.

Exhibit 2.1

Even Start Conceptual Model

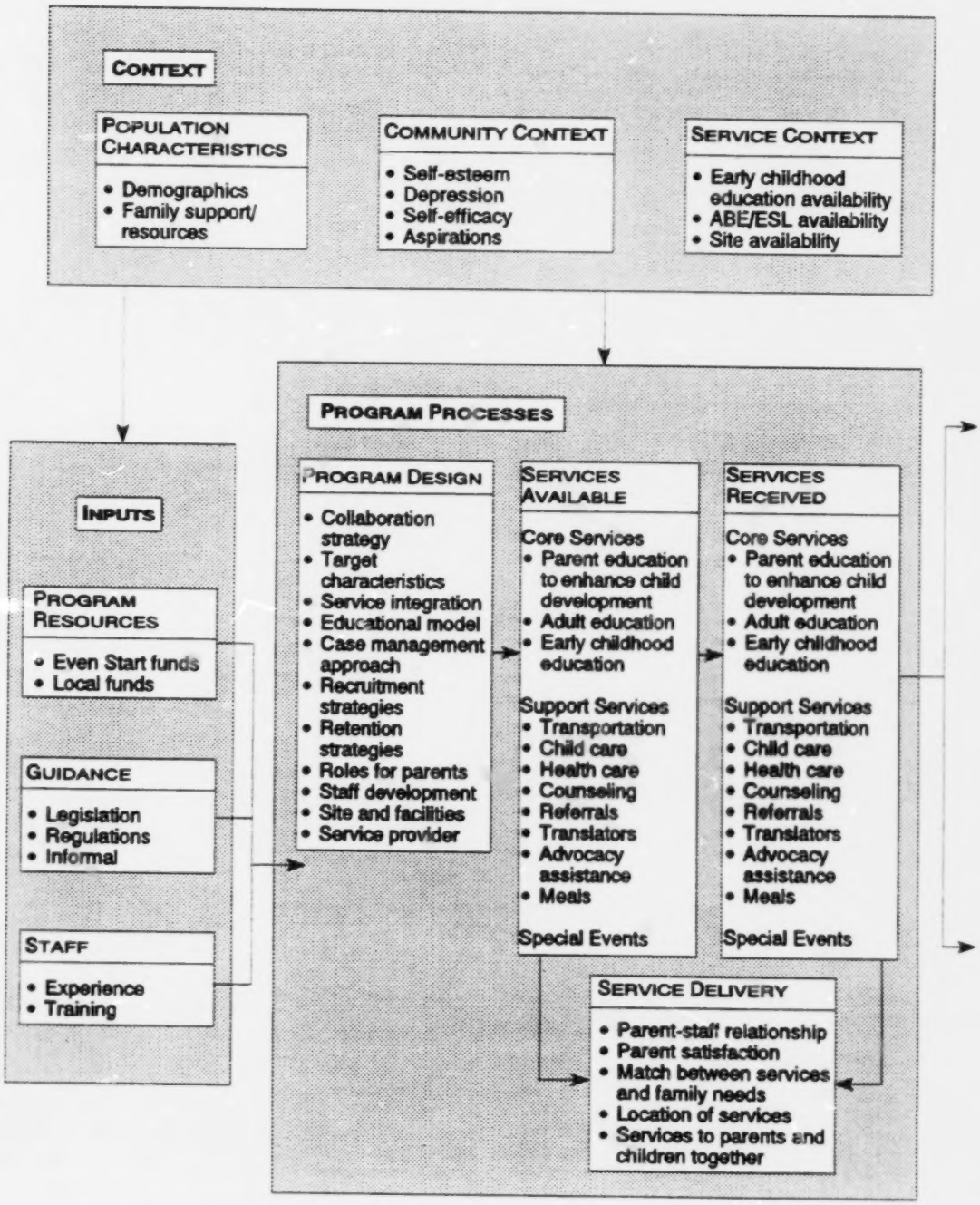
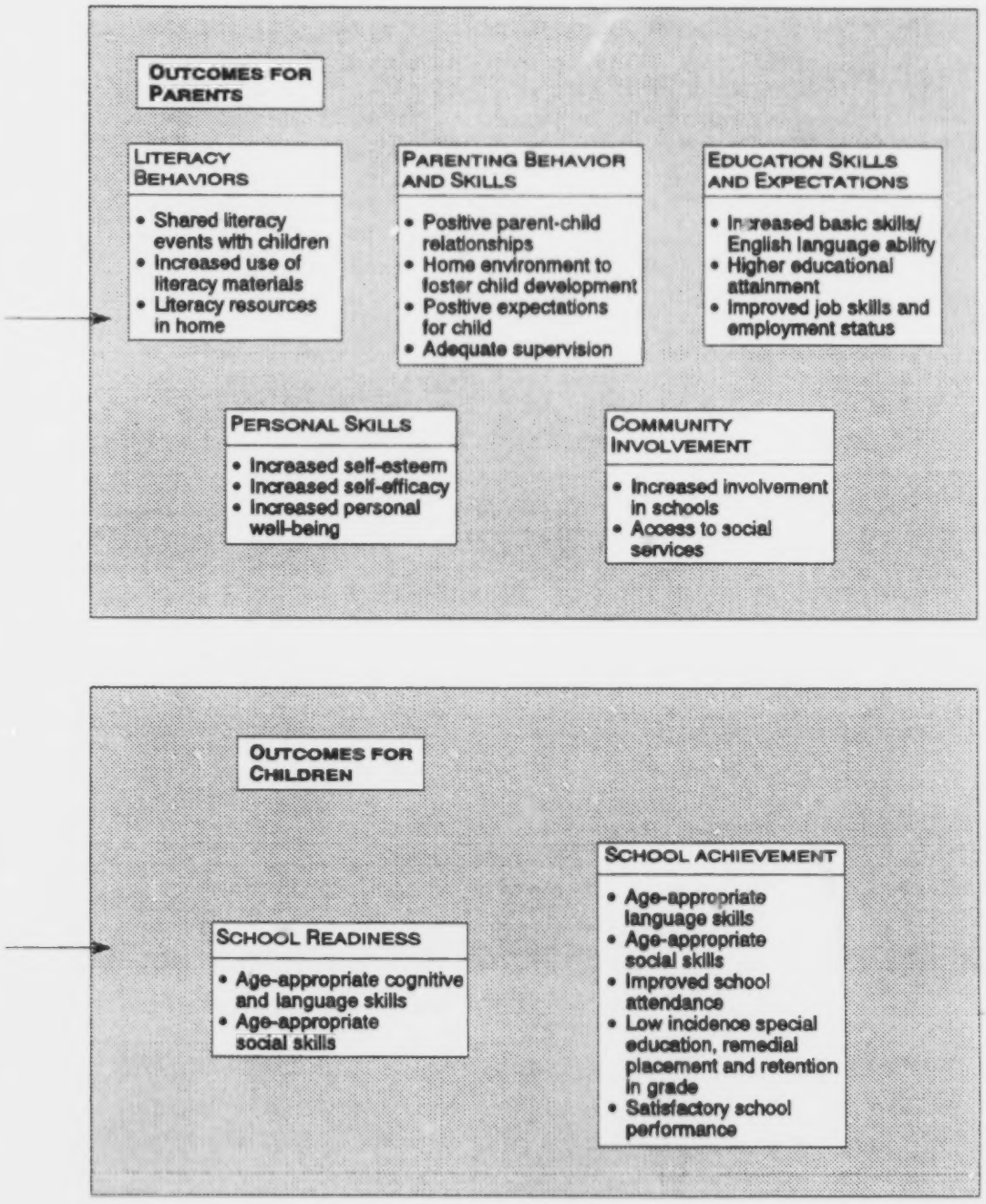


Exhibit 2.1
(continued)


OUTCOMES FOR PARENTS
LITERACY BEHAVIORS
• Shared literacy events with children
• Increased use of literacy materials
• Literacy resources in home
PARENTING BEHAVIOR AND SKILLS
• Positive parent-child relationships
• Home environment to foster child development
• Positive expectations for child
• Adequate supervision
EDUCATION SKILLS AND EXPECTATIONS
• Increased basic skills/ English language ability
• Higher educational attainment
• Improved job skills and employment status
PERSONAL SKILLS
• Increased self-esteem
• Increased self-efficacy
• Increased personal well-being
COMMUNITY INVOLVEMENT
• Increased involvement in schools
• Access to social services
OUTCOMES FOR CHILDREN
SCHOOL READINESS
• Age-appropriate cognitive and language skills
• Age-appropriate social skills
SCHOOL ACHIEVEMENT
• Age-appropriate language skills
• Age-appropriate social skills
• Improved school attendance
• Low incidence special education, remedial placement and retention in grade
• Satisfactory school performance

Adult education: services that develop the basic educational and literacy skills of the adult including adult basic education (ABE), adult secondary education (ASE), English as a second language (ESL), or preparation to attain a General Education Development (GED) certificate.

Parent education: services for parents designed to enhance parent-child relationships and help parents understand and support their child's growth and development.

It is expected and required by ED regulations that each family will participate in all three core services. Projects are free to choose the specific instructional strategies used in each of these core service areas. In addition, Even Start projects can decide to focus educational activities for children on a narrower age span than the birth through seven range that is targeted by the legislation. Finally, Even Start projects are required to provide some core services to parents and children in joint sessions and to provide home-based services.

Core services may be provided by staff funded through Even Start or by staff at cooperating agencies. For example, early childhood education may be provided by a local Head Start project and adult education classes might take place at local community colleges.

In addition to core services, Even Start projects typically provide a range of "support" services, many of which are designed to enable families to participate in core program activities. Examples of support services are transportation, child care, and referrals for employment. The Even Start legislation requires that support services be obtained from existing providers whenever possible, to ensure that Even Start projects avoid duplication of services.

It is hypothesized that the Even Start program has the potential to benefit families in several domains. Desired outcomes for parents include positive effects in three areas linked to the Even Start legislation: literacy behaviors (e.g., shared literacy events with children, increased reading and writing activities in the home), parenting behavior and skills (e.g., positive parent-child relationships, positive expectations for child), and educational skills (e.g., improved reading and English language ability, higher educational attainment). In addition, goals for parents participating in Even Start might include growth in personal skills (e.g., increased self-efficacy) and community involvement (e.g., increased involvement in schools).

It is also expected that Even Start will have a positive impact on children's school readiness and school achievement. School readiness variables include age-appropriate cognitive, language, and social skills. Once children enter school, outcomes might include satisfactory school performance, and improved school attendance, as well as a lower incidence of special education, remedial placement, and retention in grade.

Section Three

Summary of Study Design

This section lists the research questions addressed by the National Even Start evaluation and summarizes the overall approach to the evaluation. Additional information on the design is contained in the first and second year reports from this study (St.Pierre et al., 1991, 1993).

Research Questions for the National Even Start Evaluation

Presented below is a comprehensive set of research questions that have guided the evaluation. The list has evolved over time. Some questions have faded in importance, and new ones have been generated as more was learned about how projects are implemented. The research questions are organized into four major categories:

> What are the characteristics of Even Start participants? Who is in the program?
>
> How are Even Start projects implemented and what services do they provide? What does the program look like?
>
> What Even Start services are received by participating families? What do families receive by participating?
>
> What are the effects of Even Start projects on participants? (What difference does Even Start make in the lives of participants?

These questions build on those listed in the RFP for this study, as well as on the conceptual model that was presented in the previous section of this report.

What are the Characteristics of Even Start Participants?

This set of questions calls for a thorough description of the demographic characteristics of Even Start participants.

> What are the characteristics of families, adults, and children who are served by Even Start (e.g., gender, ethnicity, race, presence of handicapping condition, primary languages, educational status, employment status)?

What proportion of Even Start participants are from special populations (e.g., handicapped, limited-English-proficient)?

What social services were received by Even Start participants prior to entry into Even Start? What non-Even Start services are received by Even Start participants?

How are Even Start Projects Implemented and What Services do They Provide?

This set of questions focuses on the services being provided by Even Start projects and the ways in which Even Start projects are being implemented. Questions deal with the geographic distribution of projects, the use of available curricula/models, the cost of Even Start and the allocation of Even Start funds, recruitment and screening of families, characteristics and training of Even Start staff, collaborative efforts of Even Start projects, and barriers to program implementation.

How are Even Start projects distributed by geographic location and urbanicity?

Are Even Start projects designed as year-round or school-year projects?

To what extent do Even Start projects use available curriculum materials or program models? What materials and models are frequently used?

What is the cost of Even Start projects? How are Even Start funds allocated within projects? What proportion of Even Start funds is spent on different activities? How are local contribution funds obtained and used?

Do projects target special groups of families? What procedures are used to recruit eligible families? What procedures are used to screen and assess parents' and children's needs?

What is the background and training of Even Start staff? What is the proportion of professional, paraprofessional, and volunteer staff? In what topic areas does Even Start provide staff training? How much training is provided to Even Start staff (and to staff at other agencies) in each area?

What types of collaboration exist between Even Start and other agencies? What types of agencies are collaborating with Even Start projects? What mechanisms are being used to enhance the cooperation/collaboration (formal letter of agreement, informal agreement, increased communication, etc.)?

What core, support, and special services are provided by Even Start projects? What services do collaborating agencies provide?

What barriers exist to successful program implementation?

What Even Start Services are Received by Participating Families?

This set of questions deals with the Even Start "treatment" that is received by participating families.

> How much time do Even Start participants spend in each core service? Which core services (and how much of each service) are provided to parents and children together? Which core services (and how much of each service) are provided in the home?
>
> How long do families participate in Even Start?

What are the Effects of Even Start Projects on Participants?

This set of questions deals with the impact of Even Start projects. Questions concern areas such as effects on participating children, effects on parents and families, the relationship between amount of services and child/parent/family effects, and the effectiveness of different Even Start models.

> At entry to Even Start, how do the school-readiness and literacy-related skills of Even Start children compare with the school-readiness and literacy-related skills of children in other early childhood education programs for the disadvantaged? Of children nationally?
>
> At entry to Even Start, what is the level of basic skills and/or English-speaking ability of participating parents? What is their educational attainment? What are parents' educational expectations for their children and for themselves? What types of parent-child interactions do parents engage in? How involved are parents in their children's education? What are parents' ideas about child-rearing practices?
>
> What are the effects of Even Start on the school-readiness and literacy-related skills of Even Start children? After participating in Even Start, how do the school-readiness and literacy-related skills of Even Start preschool children compare with the school-readiness and literacy-related skills of disadvantaged children in other early childhood education programs? With children nationally?
>
> What are the effects of Even Start on the basic skills and/or English-speaking ability of participating adults? On parent-child interactions, parent behaviors, parent expectations, and parenting skills? On parent educational status, receipt of a GED, participation in job training or further education, and/or job placement?

What is the relationship between amount of home-based services, amount of parent/child together services, length of participation, and outcomes for children? Outcomes for parents?

How do parents' attitudes/expectations, basic skills, and patterns of parent-child interactions relate to children's school readiness or achievement?

Do adults participating in Even Start have better retention and/or attendance in ESL or ABE programs than adults in regular adult education programs?

Based on information about the services provided, is it possible to identify a set of Even Start "models" that exhibit variation in design and service delivery? Are some Even Start models more effective than others in terms of enhancing adult basic skills, children's school readiness, and parents' behaviors and expectations? Are some Even Start models particularly cost-effective?

Across Even Start projects, are there practices or components that are particularly effective?

Components of the National Even Start Evaluation

A four-component evaluation has been designed in order to address the questions listed above (see Exhibit 3.1). The components are: (1) the National Evaluation Information System (NEIS) for all Even Start projects, (2) an In-Depth Study of ten projects, (3) other local evaluations conducted by individual projects, and (4) local application for approval by the Department of Education's Program Effectiveness Panel (PEP) to enter the National Diffusion Network (NDN).

National Evaluation Information System

The first component of the evaluation is the National Evaluation Information System (NEIS), which is designed to collect a common set of data from each Even Start project and from most Even Start participants. The purpose of the NEIS is to provide ongoing descriptive information about the Even Start program, including the types of projects that have been funded, the services provided, the collaborative efforts undertaken, and the obstacles that exist to program implementation. The NEIS is structured to provide detailed information describing the families that participate in Even Start, the services they receive, and the progress they make in areas such as adult basic skills, children's school readiness and literacy-related behaviors, and parent-child interactions.

Exhibit 3.1
Components of Even Start Evaluation

Evaluation components	Population on which data are collected	Types of data to be collected	Data collection procedures	Years collected	Basic research questions	Analysis plan	Main focus of evaluation	Funding source for data collection	Funding source for data analysis
National Evaluation Information System (NEIS)	All Even Start projects and participants	Participant characteristics, coordination, services, implementation, costs	Parent Quest, Family Service Log, Project Quest.	All years	Who participated? How is the program implemented? How much service is received?	Descriptive analysis, review against Even Start goals	National description and assessment	Local project evaluation	Abt/RMC
		Outcomes: school readiness, adult literacy skills, parent/child interaction	Child and adult tests (PSI, PPVT, CASAS), parent interviews	2nd-4th	What is the school readiness status of children? What is the literacy level of adults? Do adults attend adult education regularly?	Compare participants' status and progress to norms and other programs for similar populations	National description and assessment	Local project evaluation	Abt/RMC
In-Depth Study	Even Start participants and control group from 10 selected Even Start projects	Participant characteristics, coordination, services, implementation, school performance, adult literacy, parent/child interaction, costs	Observation;in-depth data on participants and services;parent and staff interviews; design for longitudinal study of children	2nd-4th	What are the short and long-term effects of Even Start on children, parents, and families? What models work best? What aspects are key to success?	Compare against control group data and against data from other national programs	Assessment of model projects	Abt and local project evaluation	Abt
Local models evaluation (PEP/NDN qualification)	Even Start projects that qualify Even Start participants and comparison/control group, if appropriate	Participant characteristics, coordination, services, implementation, costs school readiness, adult literacy, parent/child interaction	Testing and parent interviews	3rd-4th	Is the project exemplary? Is it a transferrable model?	Compare gains within the project to those of similar local families or to national norms	Identification of model projects that can pass the PEP and enter NDN	Local project evaluation	Local project evaluation
Other local evaluation needs	Conducted at local level	Additional information desired by local administrators	Proposed in project application	All years	How does the project meet specified local needs?	Depends on questions	Local information needs	Local project evaluation budget	Local project evaluation budget

In-Depth Study of Ten Projects

The second component of the evaluation is the In-Depth Study. This component is designed to complement the broad-based data collected from all Even Start projects through the NEIS by providing more in-depth information on a subset of ten purposively-selected grantees. Whereas the NEIS provides common data on all projects, the In-Depth Study evaluates a subset of projects in more detail, including random assignment of participants to treatment and control groups. This methodology will provide especially credible evidence regarding the effectiveness of the Even Start approach. The In-Depth Study focuses on short-term outcomes of Even Start for parents and children and on the relationship between services received and outcomes.

Other Local Evaluation Activities

After they have met requirements for the National Evaluation Information System and the In-Depth Study, grantees may conduct other local evaluation activities that they think are necessary or appropriate. Local evaluation activities can be funded through the projects' evaluation budget, but must be approved by the State Department of Education, typically through the continuation grant.

Local Application for PEP/NDN Qualification

The final component of the evaluation is primarily the responsibility of individual Even Start grantees. In accordance with Section 1058(c) of the Even Start legislation, Even Start projects should submit evidence of their effectiveness for approval by the Department of Education's Program Effectiveness Panel (PEP). Approval by PEP results in entry to the National Diffusion Network (NDN) and national recognition as a model program worthy of emulation. After entry to NDN, the project may apply to NDN for additional dissemination funds as a developer/demonstrator project.

Starting in 1993, Even Start projects can also apply to a new NDN dissemination center on family literacy and obtain approval and recognition of their program. The National Center for Family Literacy in Louisville, Kentucky, now has authority to identify exemplary family literacy projects for inclusion as National Diffusion Network projects.

Section Four

Characteristics of Even Start Participants

This section presents data from NEIS that describe the families, children, and adults that participated in Even Start during the 1991-92 program year in terms of household composition, race and ethnicity, educational and employment status, primary language, and other variables. Two sets of projects participated in the evaluation: 76 projects which were first funded in 1989 (Cohort 1 projects) and 47 projects which were first funded in 1990 (Cohort 2 projects). Most tables and analyses in this report combine data across the two cohorts.

Number of Participants

Even Start provides three types of educational services (i.e., adult education, parenting education and early childhood education) and several types of support services (e.g., transportation, counseling). Exhibit 4.1 shows that during 1991-92, Cohort 1 and Cohort 2 projects provided some core services to 9,690 families, an average of 81 families per project. Projects provided early childhood education services to 13,541 children (114 per project), and adult education or parenting education services to 10,800 parents (91 per project) in these same families.

Characteristics of Participating Families

Family characteristics discussed here are based on data from the 9,690 families in which at least one family member participated in some Even Start core service during the 1991-92 program year. The data represent 119 out of 123 Cohort 1 and Cohort 2 projects (four projects did not provide the necessary data).

Household Composition

The largest percentage of families participating in Even Start described themselves as couples (48 percent), followed by single parent households (39 percent). The remaining categories included extended families (12 percent) and "other" families (1 percent). The latter category encompasses children living with grandparents, step-parents or guardians, or nonrelated children for whom the Even Start adult was the primary caregiver (Exhibit 4.2).

Exhibit 4.1

Number of Families, Children and Parents Participating in Even Start (1991-92 Program Year)

Type of Participant	Total N	Mean N per Project
Families receiving <u>some</u> core service	9,690	81
Children receiving ECE	13,541	114
Parents receiving ABE or PE	10,800	91

Note: Based on reports from 119 Cohort 1 and Cohort 2 projects.

Exhibit reads: 9,690 families participated in some Even Start core service in 1991-92.

Exhibit 4.2: Structure of Even Start Families (1991-92 Program Year)

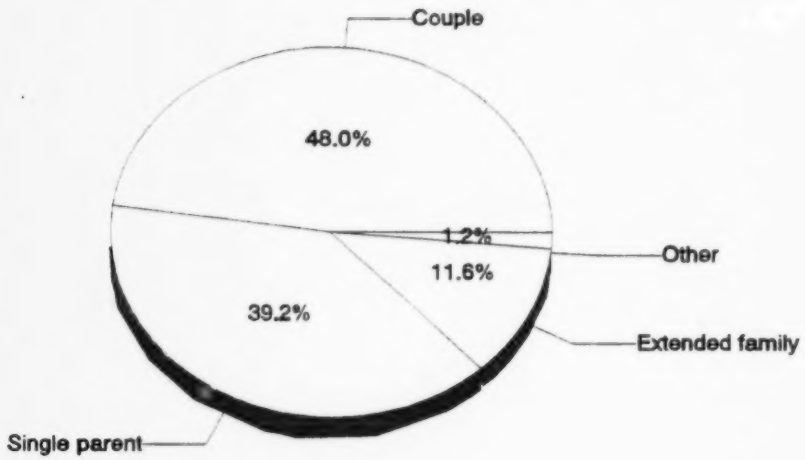


Exhibit reads: 48 percent of Even Start families were couples with children.

Consistent with descriptions of family structure, the majority of Even Start households included two adults (52 percent), followed by households with one adult (36 percent). Seven percent of households included three adults, and 6 percent included four or more adults (Exhibit 4.3). Most households included one (21 percent), two (34 percent) or three (25 percent) children. Twelve percent of Even Start families included four children, and 8 percent included five or more children (Exhibit 4.4).

The top portion of Exhibit 4.5 shows that 18 percent of Even Start families had at least one child less than one year old. The middle portion of the exhibit shows that the majority of families had either one (43 percent) or two (38 percent) children between the ages of one and seven. Fourteen percent of households included three eligible children, and 5 percent of households included four or more children. The bottom portion shows that 37 percent of households included some children too old to participate in Even Start (ages eight through 16).

Household Income

An examination of the sources of financial support for Even Start families during the 1991-92 program year shows that the primary sources of financial support were government assistance (52 percent) and wages from jobs (47 percent). Only 3 percent of families used alimony or child support as a primary source of support (Exhibit 4.6).

Exhibit 4.3: Number of Adults in Even Start Families
(1991-92 Program Year)

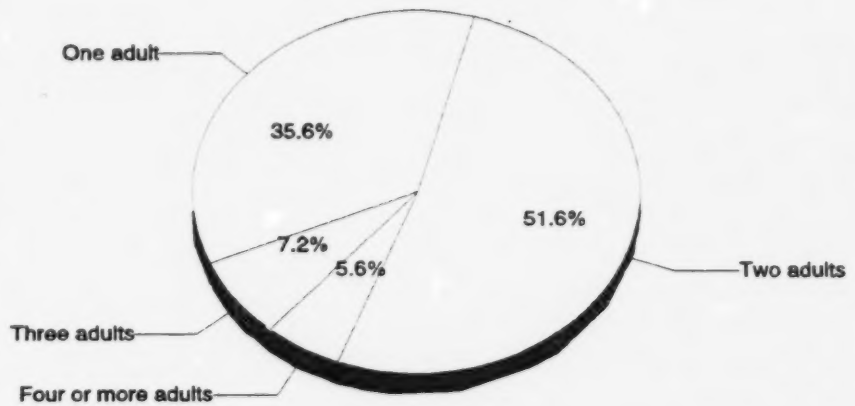


Exhibit reads: 35.6 percent of Even Start families had one adult in the household.

Exhibit 4.4: Number of Children in Even Start Families
(1991-92 Program Year)

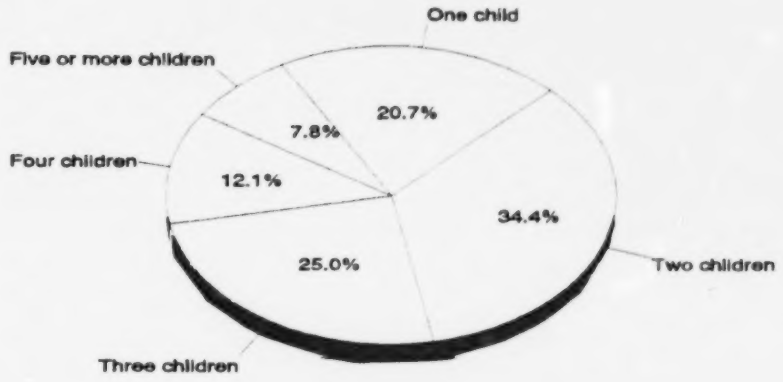


Exhibit reads: 20.7 percent of Even Start families had one child in the household.

Exhibit 4.5

Percentage of Even Start Families by Number of Children in Different Age Categories (1991-92 Program Year)

Age Category	%
Children less than 1 year (eligible)	
None	82%
One	18%
Total Families	100%
Children ages 1-7 years (eligible)	
One	43%
Two	38%
Three	14%
Four or more	5%
Total families	100%
Children ages 8-16 years (ineligible)	
None	63%
One	22%
Two	11%
Three	3%
Four or more	1%
Total families	100%

Exhibit reads: 82 percent of Even Start families had no children less than one year of age.

Exhibit 4.6

Primary Sources of Financial Support for Even Start Families (1991-92 Program Year)

Primary Sources of Financial Support	%
Government assistance	52%
Job wages	47%
Alimony/child support	3%
Other	4%

Note: Percentages sum to more than 100 percent because multiple responses were allowed.

Exhibit reads: 52 percent of Even Start families relied on government assistance as their primary source of financial support in 1991-92.

The median total annual household income reported by Even Start families was well under $10,000: 40 percent of families reported incomes under $5,000, 29 percent had income between $5,000 and $10,000, 16 percent reported incomes in the $10,000 to $15,000 range, 8 percent had incomes between $15,000 and $20,000, and only 7 percent reported incomes over $20,000 (Exhibit 4.7). By way of comparison, 33 percent of Chapter 1 families had annual incomes under $10,000 (U.S. Department of Education, 1993).

Characteristics of Participating Adults in Even Start Families

Each Even Start family contains one or more adults. Data were reported on a total of 10,800 adults in the 9,690 Even Start families.

Age of Participating Adults in Even Start Families

Most adults in Even Start families were between 22 and 29 years old (47 percent), or between 30 and 39 years old (31 percent). Only 12 percent were in the 18 to 21 age range, 2 percent were younger than 18, 7 percent of Even Start adults were 40 to 49 years old, and 2 percent were 50 or older (Exhibit 4.8). Given the low-income population targeted by Even Start, it might be expected that more than two percent of Even Start adults would be under 18 years of age. However, a family is eligible for Even Start only if an adult in the family qualifies for adult basic education, and adult basic education participants must either be at least 16 years old and not in school or beyond the age of compulsory schooling in their state.

Exhibit 4.7: Total Annual Income of Even Start Families (1991-92 Program Year)

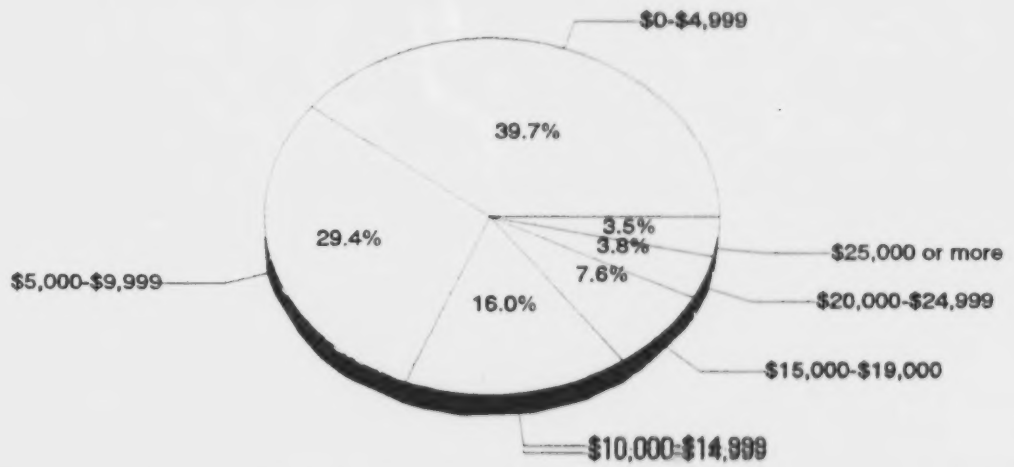


Exhibit reads: 39.7 percent of Even Start families had annual incomes of less than $5,000 in 1991-92.

Exhibit 4.8: Age of Participating Adults in Even Start Families (1991-92 Program Year)

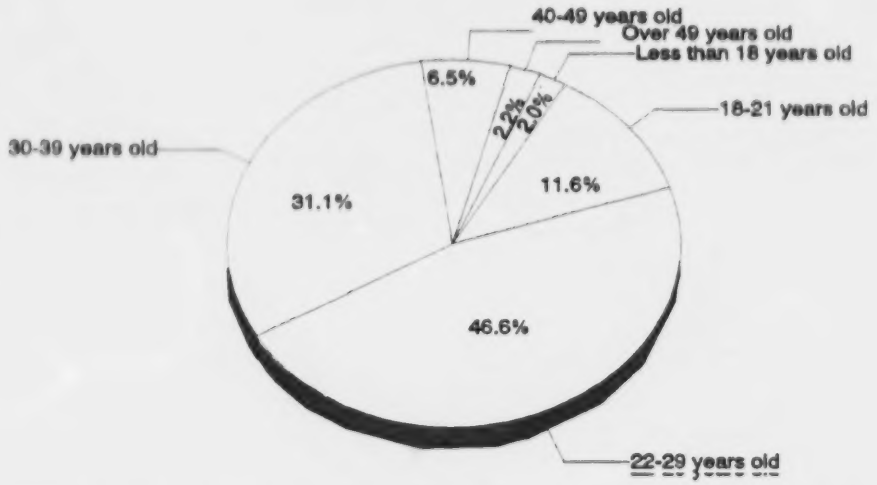


Exhibit reads: 11.6 percent of participating adults in Even Start families were 8-21 years old in 1991-92.

Gender of Participating Adults in Even Start Families

Exhibit 4.9 displays the gender of adults who participate in Even Start core services. Of all adults, 20 percent were male and 80 percent were female.

Race/Ethnicity of Participating Adults in Even Start Families

Forty-five percent of Even Start adults were categorized as white and 27 percent were African-American (Exhibit 4.10). Six percent of adults categorized themselves as Native American, and 3 percent as Asian/Pacific Islander or other. Eighteen percent did not specify a racial category but listed Hispanic as their ethnic heritage. Exhibit 4.11 shows that, of this group, 80 percent listed their background as Mexican, 6 percent listed Puerto Rican, and 14 percent selected "other Hispanic."

Educational Attainment of Adults in Even Start Families

A distribution of years of educational attainment prior to participating in Even Start is shown in Exhibit 4.12. The solid line represents adults participating in any type of Even Start core service. The dashed line represents nonparticipating adults from families in which at least one adult participated in some type of Even Start core service.

In general, nonparticipants in Even Start families had a higher level of education than participating adults. This makes sense since each participating adult ought to be in need of adult education, whereas nonparticipating adults may or may not have such a need. A total of 77 percent of core service participants and 64 percent of nonparticipants did not graduate from high school. An additional 17 percent of participants and 27 percent of nonparticipants either had a high school diploma or a GED, and 6 percent of participants and 9 percent of nonparticipants had undertaken some postsecondary education.

Program regulations allow adults to participate in adult basic education even if they have a high school diploma or a GED. Participation is based on educational need rather than diploma status. Also it should be noted that ESL adults may have completed secondary or postsecondary programs in their native countries but still require adult education to improve their English skills.

Exhibit 4.9: Gender of Participating Adults in Even Start Families (1991-92 Program Year)

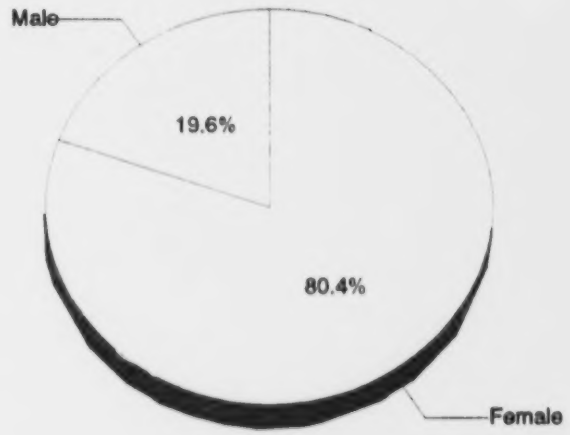


Exhibit reads: 80.4 percent of participating adults in Even Start families were females.

Exhibit 4.10: Racial/Ethnic Background of Participating Adults in Even Start Families (1991-92 Program Year)

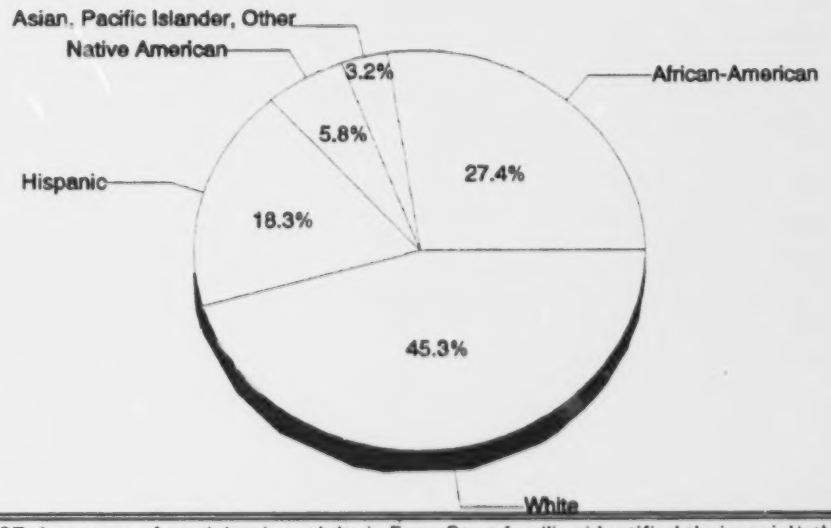


Exhibit reads: 27.4 percent of participating adults in Even Start families identified their racial/ethnic background as African-American.

Exhibit 4.11: Ethnic Background of Hispanic Adults in Even Start Families (1991-92 Program Year)

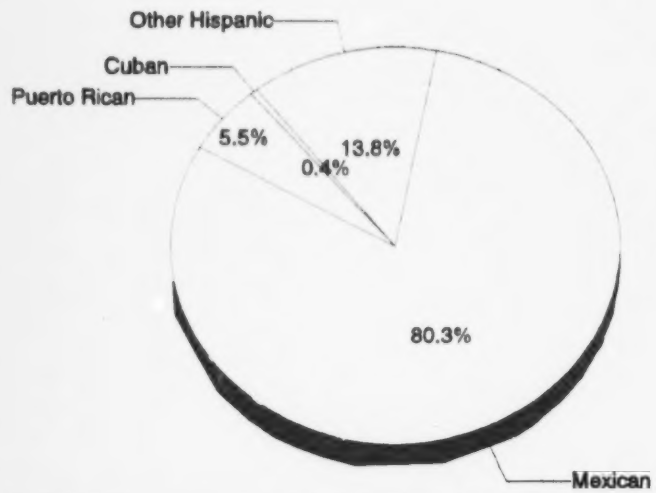


Exhibit reads: 80.3 percent of Hispanic adults in Even Start identified their background as Mexican.

Exhibit 4.12: Years of Schooling for Adults in Even Start Families: Core Service Participants and Non-Participants (1991-92 Program Year)

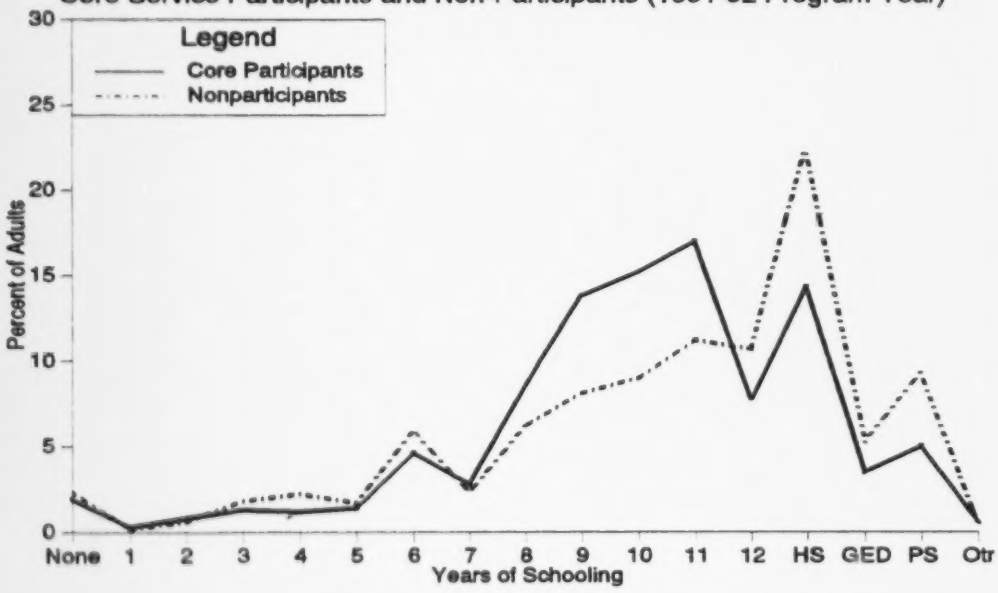


Exhibit reads: Nonparticipants in Even Start core services tended to have higher levels of education than participating adults in the same family.

Functional Literacy Levels of Even Start Adults

This evaluation measured the functional literacy of Even Start adults using the Comprehensive Adult Student Assessment System (CASAS), an adult-oriented measure of a broad range of adult literacy skills and their application in real life domains including consumer economics, government and law, occupational knowledge, community resources, and health. Details on the CASAS, including a description of the different levels of achievement, are contained in Section Nine of this report.

The average Even Start adult enters with high school literacy skills. The mean CASAS pretest score was 229 scale score points with a standard deviation of 14 points (Exhibit 4.13). Nearly three-quarters of the participants (71 percent) attained pretest scores of 225 or more--a literacy level equivalent at least to entry to high school. One in six (17 percent) entered with an intermediate level of literacy. Very few adults entered with a basic literacy level (8 percent) or a beginning level (5 percent). However, because adults were not tested unless their primary language was English and a few sites did not test adults with reported learning disabilities, it is possible that these figures overestimate the average literacy levels of Even Start adults.

Exhibit 4.13: Distribution of CASAS Functional Literacy Level for Entering Adults (NEIS Data Set)

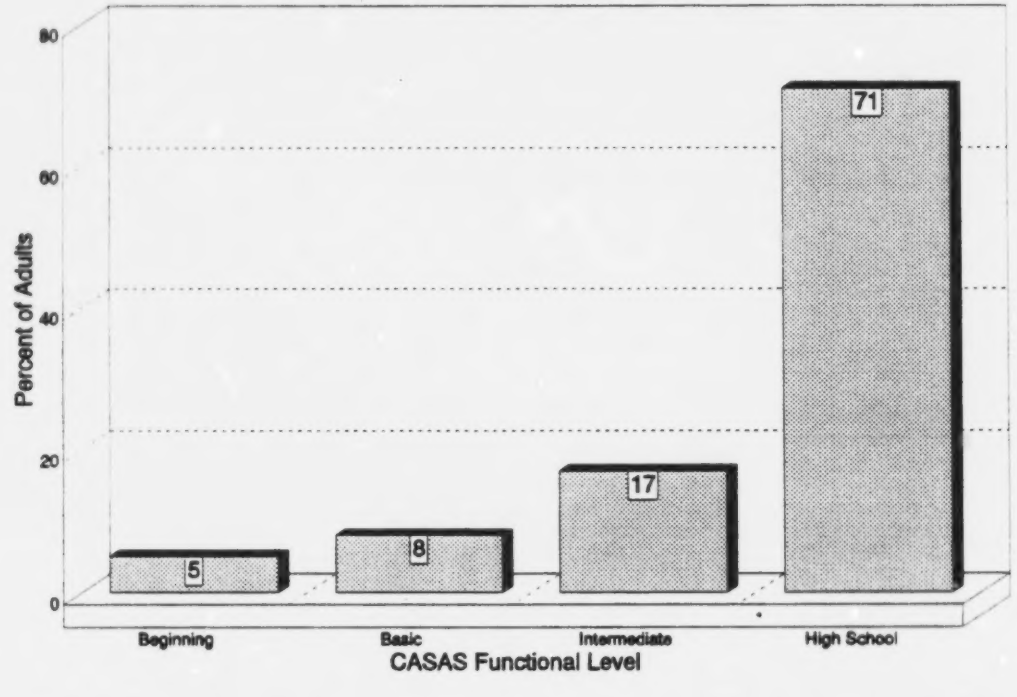


Exhibit reads: 71 percent of Even Start adults had CASAS pretest scores that placed them in the "high school" functional level.

These pretest scores are consistent with the pre-Even Start level of education reported for Even Start adults: 23 percent of the adults participating in Even Start core services never attended high school, 54 percent had some high school education, and an additional 23 percent had a high school diploma or a GED. Thus, according to self-reports, 77 percent of Even Start adults entered with at least some high school experience; and according to the CASAS pretest, 71 percent of Even Start adults entered with at least high school entry reading skills.

Exhibit 4.14 shows average CASAS pretest scores for selected subgroups of adults who took the CASAS pretest within one month of entering Even Start. Adults entering Even Start with less than a fifth grade education averaged 207 scale score points on the pretest, equivalent to a basic level of functional literacy. Those entering with a ninth to twelfth grade education scored 230 points, a high school functional level. Participants entering with a GED or diploma scored no better at 231, suggesting that these adults could benefit from Even Start services despite holding a diploma.

The pretest literacy level of adults was generally a little lower for older adults than for those under age 25. Not surprisingly, adults for whom English was the primary language scored much higher on the pretest (231) than those for whom English was not the primary language (214). Adults in families with higher incomes also tended to enter with higher literacy levels than adults in families with lower incomes.

Exhibit 4.15 compares pretest scores on the CASAS reading achievement test of Even Start adults with the pretest scores of adults in other related programs. In one evaluation of the "321" Program (a special adult basic education program in California), researchers (CASAS, 1992) reported pretest means of 217 scale score points for 5,029 ABE students and 210 points for 31,006 ESL students, lower entry levels than their Even Start counterparts. The California programs served a more ethnically diverse population than Even Start, often with more limited English proficiency, and many participants enrolled to meet a state or federal mandate. One explanation for the lower scores among California 321 participants is that they required tests for adults whose first language was not English, whereas the Even Start evaluation did not include such a requirement, eliminating these potentially low scorers from the study.

The California-funded GAIN (Greater Avenues for Independence) program for Aid to Families with Dependent Children applicants and recipients conducted literacy testing on all participants. An early study on this program reported an average pretest of 233 (CASAS, 1990). The higher literacy level of GAIN adults was not surprising since more than half of the participants of this welfare reform program had high school diplomas, a GED, or other degrees before entering the program.

Although the average entry literacy level of Even Start participants is comparable to other adult education programs, as reported above, there is considerable variation among individual projects. Exhibit 4.16 shows the distribution of average CASAS pretest scores across the 97 projects that reported valid scores on at least five adults. While two-thirds (67 percent) of the projects had average pretest scores within the high school functional

Exhibit 4.14

Pretest Scores on the CASAS Reading Survey (Scale Score Points; NEIS Data Set)

Group	Number of Adults	Average Pretest Mean	Pretest Standard Deviation
Highest grade at intake			
Grades 0-4	43	207.4	23.8
Grades 5-8	398	224.0	16.7
Grades 9-12	1,727	230.3	12.7
Diploma/GED	410	230.9	14.0
Age at intake			
16-20	377	230.1	12.8
21-25	881	231.0	12.6
26-30	698	228.4	15.6
31-35	312	228.7	14.0
35-40	136	225.6	17.6
Over 40	115	222.1	18.7
Primary language is English			
Yes	2,180	231.3	12.2
No	321	214.3	18.5
Family annual income			
Under $5,000	1,134	227.8	14.3
$ 5,000 - 10,000	668	229.5	13.5
$10,000 - 15,000	289	229.0	16.0
$15,000 - 20,000	176	231.4	14.7
$20,000 - 25,000	95	233.4	15.1
Over $25,000	83	235.9	15.8
TOTAL	**2,587**	**229.0**	**14.4**

Exhibit reads: Adults entering Even Start without a high school diploma or GED performed at their expected functional level on their CASAS pretest. However, the 410 adults entering with a diploma or GED performed no better than those adults who had reached grades 9-12. This confirms that their placement in Even Start was appropriate.

Exhibit 4.15: Average Pretest Scale Score on the CASAS Reading Survey for Even Start and Three Adult Literacy Programs

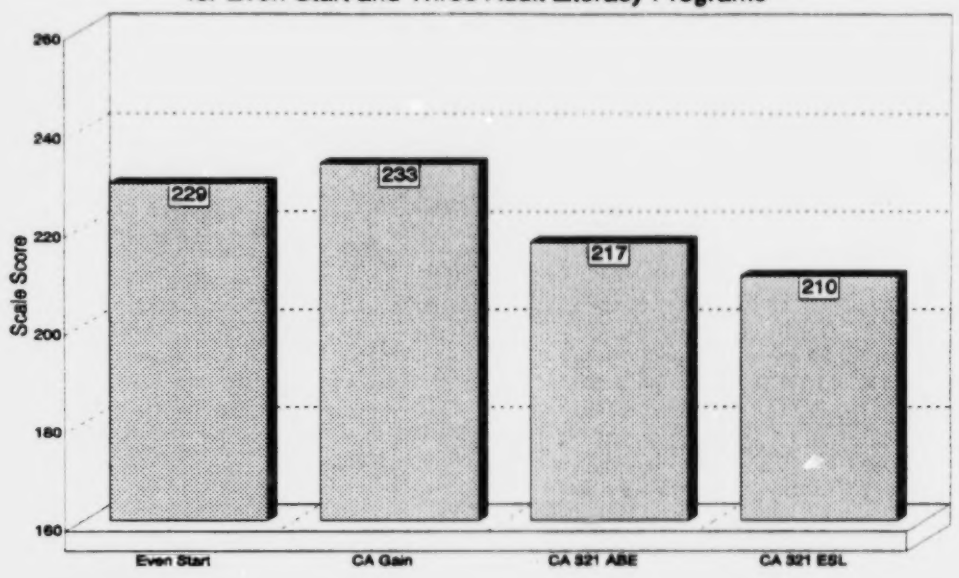


Exhibit reads: The average entry literacy level for Even Start adults, as measured by the CASAS Reading Survey, was slightly lower than participants in the Greater Avenues for Independence (GAIN) programs in California but higher than the ethnically diverse participants of the federal 321-funded adult education programs.

Exhibit 4.16: Project Variation in CASAS Entry Scores (NEIS Data Set)

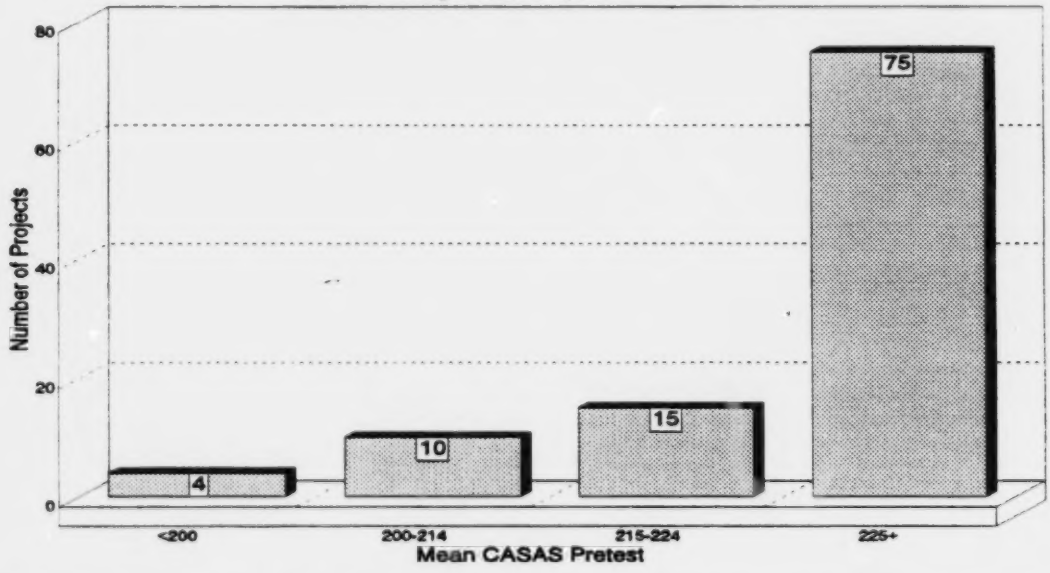


Exhibit reads: The CASAS pretest average for three projects fell below 200, the beginning literacy level. The average for most projects fell above 225, the high school literacy level.

level, the project averages ranged from 184 at the beginning literacy level to 250 which is near the highest valid score in the high school literacy level. Clearly there are implications for selecting curriculums and setting goals for outcomes between those projects with most adults entering at an elementary or middle school academic skills level, compared to those with more adults at low high school levels.

Primary Language of Participating Adults

English was reported as the primary language for 72 percent of participating adults, Spanish was the primary language for 22 percent, and 6 percent reported some other primary language including Hmong, Vietnamese, Chinese, Creole, French, and others (Exhibit 4.17).

Exhibit 4.18 displays the reported ability of adults for whom English is not the primary language to speak, read and understand English. About 18 percent reported the ability to speak English "very well," 49 percent could speak English "somewhat," and 33 percent "not at all." Seventeen percent could read English "very well," 45 percent "somewhat," and 38 percent "not at all." Finally, three-quarters of adults participating in Even Start for whom English is not the primary language understand English "very well" (22 percent) or "somewhat" (53 percent). The remaining 25 percent understood English "not at all."

Exhibit 4.19 presents information about the language used by adults when reading to their children. It can be seen that 70 percent of Even Start adults for whom English was not the primary language reported that they read to their children in their primary language, 20 percent of this group read to their children in English, and 8 percent read in both English and their primary language.

Employment Status of Participating Adults in Even Start Families

Most Even Start adults were unemployed at the start of the program year. Seventy-two percent of the adults who participated in Even Start core services were unemployed, 20 percent were employed full-time, and 8 percent were employed part-time (Exhibit 4.20). Exhibit 4.21 expands on this information by showing the duration of employment or unemployment. Seventy-four percent of the adults who were unemployed had been so for more than 12 months. Similarly, over half (57 percent) of the adults who were employed had been so for more than 12 months.

Exhibit 4.17: Primary Language of Adults in Even Start Families (1991-92 Program Year)

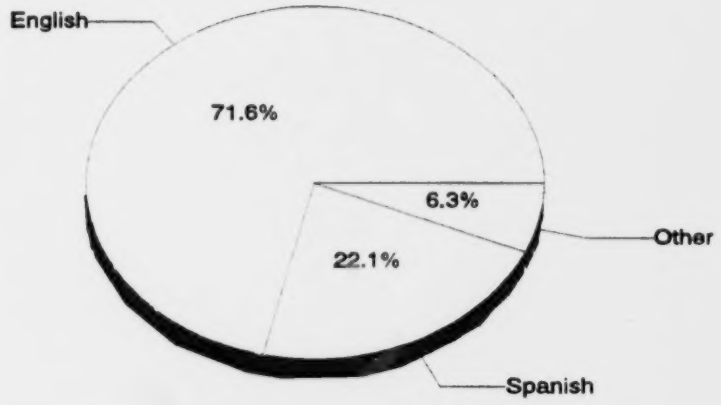


Exhibit reads: 72 percent of Even Start adults reported English as their primary language.

Exhibit 4.18

Reported English Language Facility of Adults Participating in Even Start Core Services, For Adults Whose First Language is Not English (1991-92 Program Year)

Reported English Language Facility	%
Speaks English	
Very well	18%
Somewhat	49%
Not at all	33%
Reads English	
Very well	17%
Somewhat	45%
Not at all	38%
Understands English	
Very well	22%
Somewhat	53%
Not at all	25%

Exhibit reads: Of adults whose first language is not English, 18 percent report speaking English very well.

Exhibit 4.19

Language Used to Read to Child, For Adults Whose First Language is Not English (1991-92 Program Year)

Language Used to Read to Child	%
Primary language (non-English)	70%
English	20%
Both	8%
Other	2%
Total adults	100%

Exhibit reads: Of adults whose first language is not English, 70 percent read to their child in their primary language.

Exhibit 4.20: Employment Status of Adults in Even Start Families (1991-92 Program Year)

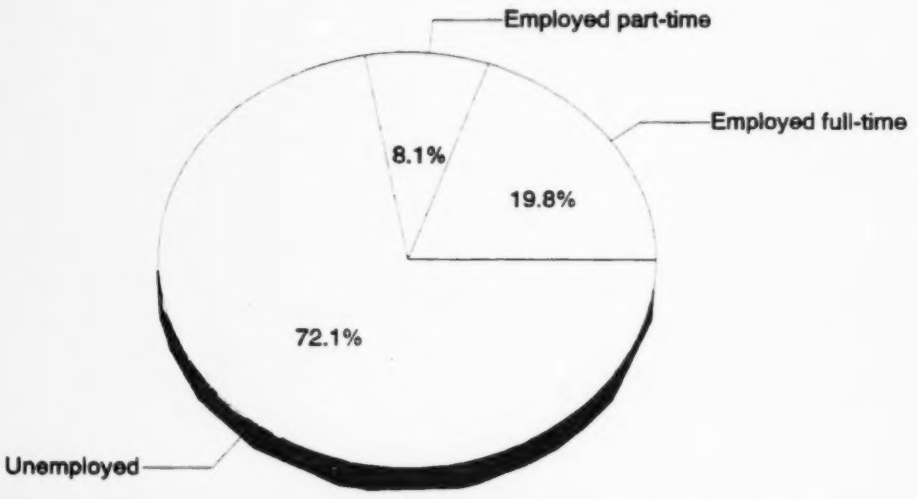


Exhibit reads: 72 percent of Even Start adults were unemployed in 1991-92.

Exhibit 4.21

Duration of Employment Status of Adults in Even Start Families (1991-92 Program Year)

Employment Status/Duration	N	%
Employed		
Less than 6 months	636	25%
6 to 12 months	456	18%
More than 12 months	1,421	57%
Unemployed		
Less than 6 months	997	15%
6 to 12 months	670	11%
More than 12 months	4,590	74%

Exhibit reads: Of the unemployed Even Start adults, 74 percent had been unemployed for more than 12 months.

Characteristics of Participating Children

This section of the report presents data on 13,541 children in families that participated in core Even Start services during the 1991-92 program year. There are no meaningful differences between the child-level variables discussed here and the adult-level variables just discussed.

Age of Participating Children

Even Start projects focus somewhat on children in the middle of the eligible age range (birth through age 7): 53 percent are three, four, or five years of age; 31 percent are less than three, and 16 percent are six or seven years old (Exhibit 4.22).

Gender of Participating Children

The percentage of male and female participating children is shown in Exhibit 4.23: 51 percent of the children are male and 49 percent are female.

Exhibit 4.22: Age of Participating Children in Even Start Families
(1991-92 Program Year)

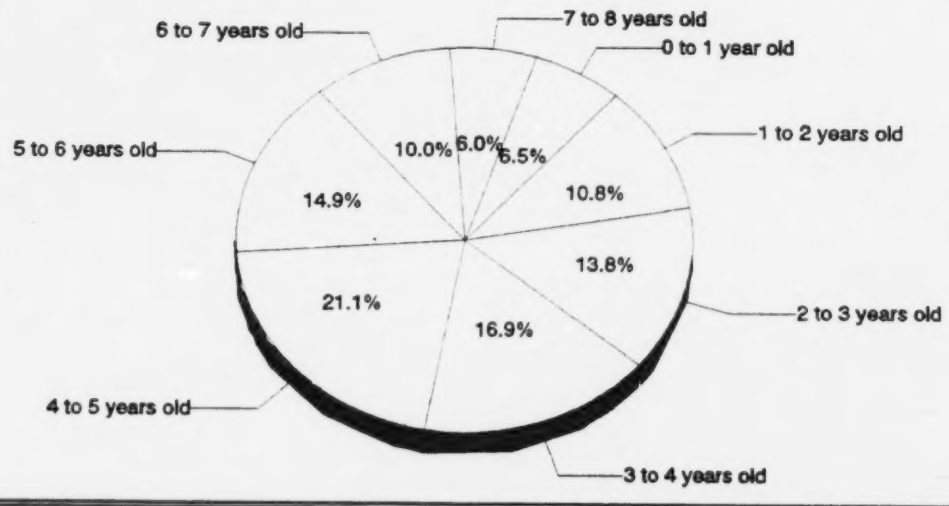


Exhibit reads: Six percent of participating Even Start children were less than one year old in 1991-92.

Exhibit 4.23: Gender of Participating Children in Even Start Families
(1991-92 Program Year)

Exhibit reads: 49 percent of participating Even Start children were females.

Race/Ethnicity of Children in Even Start Families

Racial and ethnic categories for children are presented in Exhibit 4.24 and, as expected, are similar to those presented for adults: 42 percent of children were identified as white, 30 percent of children are African-American, 6 percent are Native American, 3 percent are Asian/Pacific Islander, and 3 percent are other. For 19 percent of children, Hispanic 9 percent as Puerto Rican, and 12 percent as "other Hispanic" (see Exhibit 4.25).

Educational Experiences of Participating Children

Sixty-four percent of Even Start children were reported to have had no formal educational experience prior to the beginning of Even Start, 27 percent had a preschool experience (either Head Start or some other preschool), 12 percent had participated in kindergarten, and 5 percent participated in a primary grade (Exhibit 4.26).

Special Needs of Participating Children

Of all children participating in Even Start core services, nine percent were reported to have a disability. Exhibit 4.27 shows the specific types of special needs, none of which exist for more than three percent of the Even Start population. Learning problems were cited for 37 percent of the special needs children (3 percent of all Even Start children), emotional problems for 19 percent, hearing problems for 12 percent, and "other" physical disabilities for 12 percent.

Vocabulary Skills of Even Start Children

This evaluation used the Peabody Picture Vocabulary Test (PPVT) to assess children's receptive (hearing) vocabulary. PPVT scores are standardized, so that a score of 100 represents the average score for the norms group at each age level.

Across children of all ages, pretest scores averaged 81.8 standard score points (Exhibit 4.28). This corresponds to the twelfth percentile when compared to national norms and points out the low verbal skills of children prior to entry into Even Start. Directions for test administration were that program staff were to determine whether to administer the PPVT (for English speakers) or the TVIP (for Spanish speakers). Children who took the PPVT averaged 80.8 on the pretest (tenth percentile) compared with children who took the TVIP who averaged 91.1 on the pretest (27th percentile). It is not possible to make comparisons between these percentiles because the norms groups are different for the PPVT and TVIP.

Exhibit 4.24: Racial/Ethnic Background of Participating Children in Even Start Families (1991-92 Program Year)

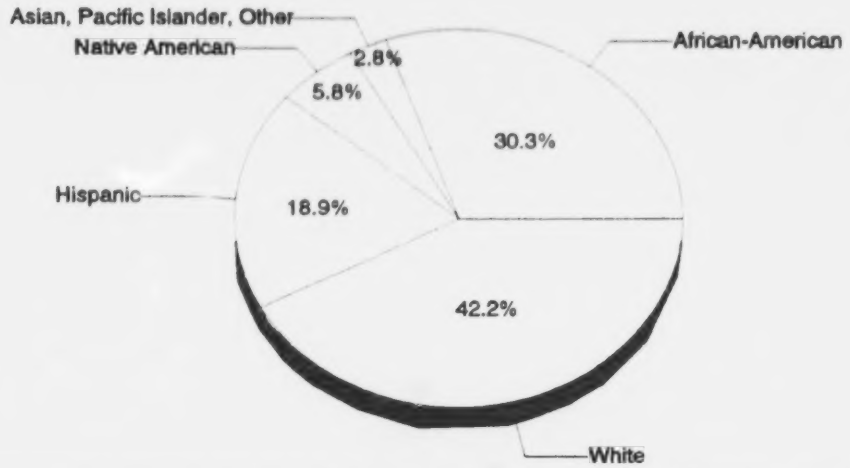


Exhibit reads: 30.3 percent of participating children in Even Start families were reported as being African-American.

Exhibit 4.25: Ethnic Background of Hispanic Children in Even Start Families (1991-92 Program Year)

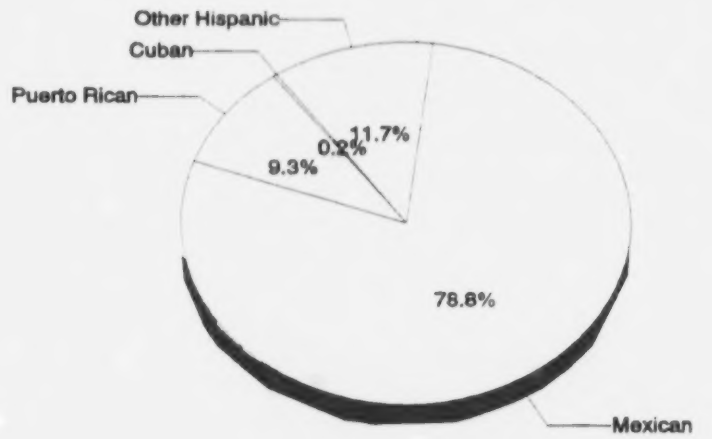


Exhibit reads: 78.8 percent of Hispanic children in Even Start were identified as being of Mexican background.

Exhibit 4.26: Previous Educational Experience of Children Participating in Even Start Core Services (1991-92 Program Year)

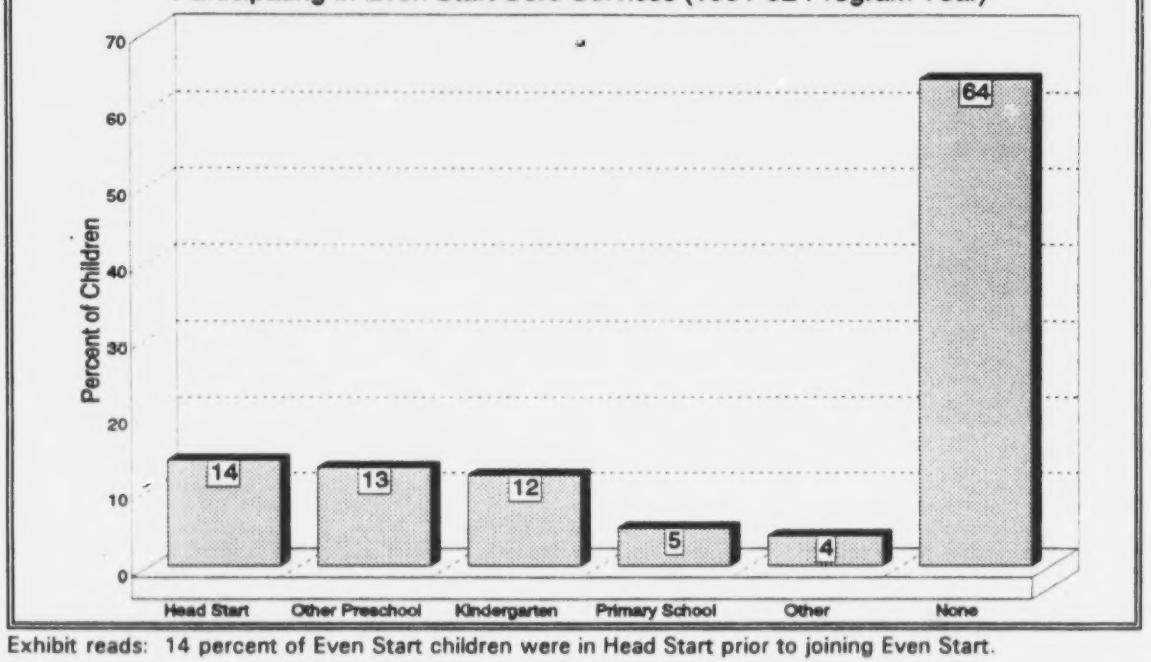


Exhibit reads: 14 percent of Even Start children were in Head Start prior to joining Even Start.

Exhibit 4.27

Types of Special Needs for Children Participating in Even Start Core Services (1991-92 Program Year)

Type of Special Need	% of Children with Special Need (N = 1,205)	% of Children in Even Start (N = 13,541)
Specific learning problem	37%	3.32%
Emotional problem	19%	1.66%
Hearing problem	12%	1.07%
Other physical disability	12%	1.05%
Visual problem	9%	0.78%
Mental retardation	6%	0.55%
Speech problem	3%	0.35%
Orthopedic problem	0%	0.01%
Other	24%	2.15%

NOTE: Percentages sum to more than 100 percent because multiple responses were allowed.

Exhibit reads: Nine percent of Even Start children who had a special need have a visual problem. This represents 0.78 percent of all Even Start children.

Exhibit 4.28

PPVT Pretest Scores
(Standard Scores from the NEIS Data Set)

Group	N	Mean	SD
Age at pretest			
3-0 to 3-11	552	82.3	15.7
4-0 to 4-11	773	78.2	17.7
5-0 to 5-11	337	84.3	16.1
6-0 to 6-11	201	87.7	17.4
7-0 to 7-11	83	83.4	16.4
Gender			
Male	965	81.5	17.2
Female	971	82.1	16.9
Prior preschool experience			
No	1,229	80.9	17.2
Yes	661	83.0	17.1
Highest grade attained by target parent			
Grade 0-4	44	81.5	18.2
Grade 5-8	328	82.7	17.5
Grade 9-12	1,133	81.0	17.1
Diploma or GED	425	83.7	16.8
Language test administered in			
English (PPVT)	1,715	80.8	16.9
Spanish (TVIP)	223	91.1	16.4
Total	**2,025**	**81.8**	**17.1**

Exhibit reads: The average PPVT pretest score for males was 81.5 standard score points.

Comparison With Head Start and CCDP

Even Start is a comparatively new federal program and it is of interest to see how the characteristics of Even Start participants compare to the characteristics of participants in other similar federal programs. Such cross-program comparisons are never easy because measures are often not comparable across studies. Nevertheless, Exhibit 4.29 presents selected data on Even Start families, on families that participated in Head Start, and on families who are participating in the Comprehensive Child Development Program (a family support program funded by the U.S. Department of Health and Human Services).

Even Start families are less often headed by a single parent than families that participate either in Head Start or in CCDP (36 percent single parent families in Even Start vs. 55 percent in Head Start and 63 percent in CCDP). Even Start and Head Start appear to serve about the same percentage of very low-income families--40 percent of Even Start families have incomes below $5,000 while 46 percent of Head Start families have incomes below $6,000. CCDP seems to serve a somewhat larger percentage of very low income families--62 percent of CCDP families have incomes below $6,000. Because there is no income cut off, Even Start includes a larger proportion of families with relatively higher incomes (over $15,000) than CCDP.

Finally, Even Start serves a higher proportion of white families than Head Start or CCDP (45 percent, 27 percent, and 24 percent respectively) and a lower proportion of African-American families (27 percent, 33 percent, and 44 percent respectively). This latter finding could result from the fact that Even Start projects are required to be geographically distributed and to include both urban and rural areas, while Head Start grantees overrepresent the South, and CCDP overrepresents inner cities.

Exhibit 4.29

Family Characteristics: Even Start, Head Start, CCDP

Family Characteristic	Even Start	Head Start[1]	CCDP[2]
Single parent households	36%	55%	63%
Race/ethnicity			
African-American	27%	38%	44%
White	45%	33%	24%
Hispanic	18%	22%	27%
Other	9%	7%	5%
Mean family income	$8,175[4]	$7,020[3]	$5,707
Income distribution	$0-$4,999 = 40%	$0-$5,999 = 46%	$0-$5,999 = 62%
	$5,000-$9,999 = 29%	-	$6,000-$8,999 = 20%
	$10,000-$14,999 = 16%	-	$9,000-$11,999 = 12%
	over $15,000 = 15%	-	over $12,000 = 6%

[1]Administration on Children, Youth and Families (1992). Statistics are for 1991.
[2]Hubbell, R. et al. (1991). Statistics are for 1989.
[3]Glantz, F. et al. (1988). Statistics are for 1986.
[4]Estimated from income distribution.

Section Five

Characteristics of Even Start Projects

This section presents data from the NEIS which describe the Cohort 1 and Cohort 2 Even Start projects as they were implemented during the 1991-92 program year. This was the third year of program operations for Cohort 1 and the second year of operations for Cohort 2. Data for this section are based on self-reports from project directors.

The discussion covers the following topics: recruitment and screening, types of core services delivered, core services delivered to adults and children together, types of support services, types of special activities, cooperative arrangements, implementation problems, and technical assistance needs.

Recruitment and Screening Strategies

Recruitment Strategies

Even Start project directors were asked to identify the strategies that worked best for recruiting eligible Even Start participants during the 1991-92 program year. Each project selected up to three successful strategies from a list of options and wrote in other successful strategies.

The two most successful strategies used by Even Start projects were referrals from local agencies and from the public schools, each listed by 59 percent of the projects as a successful recruiting strategy (Exhibit 5.1). Over half (51 percent) of the projects listed home visits as a successful strategy. Three other approaches to recruiting were listed by more than one-third of the projects: telephone contact (41 percent), word of mouth (38 percent), and referrals from Head Start (37 percent). Targeted mailings were seen as successful by 21 percent and the mass media were successful for 18 percent of all Even Start projects.

Steps Used in Formal Screening

Projects were asked to identify the formal steps they used to screen participants by responding to a checklist and by writing in additional steps or activities. A summary of responses is presented in Exhibit 5.2. Nearly all of the projects verified the eligibility of potential participants (97 percent) and gave a basic orientation (89 percent) during the screening process. More than half of the projects assessed the basic skills of adults (65

Exhibit 5.1

Successful Strategies for Recruiting Eligible Participants: (1991-92 Program Year)

Recruiting Strategy	Percent of Projects
Agency referrals (e.g., WIC, health clinic)	59%
Public school referrals	59%
Home visits to potential participants	51%
Telephone contact	41%
Word of mouth	38%
Referrals from Head Start staff	37%
Targeted mailings	21%
Mass media	18%
Joint efforts with collaborative agency	9%
Posters / flyers	6%
Presentations / visits to community agencies	6%
General result of greater community visibility	5%
Even Start recruiting program (open house, fun fair, etc.)	2%

Exhibit reads: 51 percent of the reporting projects identified home visits as a successful recruiting strategy.

Exhibit 5.2

Steps Included in Formal Screening of Potential Participants (1991-92 Program Year)

Screening Activity	Percent of Projects
Verify eligibility	97%
Orientation	89%
Assess basic skills of adults	65%
Contact other agencies	58%
Test children	35%
Counseling	24%
None	1%

Exhibit reads: 97 percent of reporting projects verified eligibility as a step in formal screening of potential participants.

percent) and contacted other agencies as part of the formal screening (58 percent). One-third of the projects (35 percent) tested children as part of screening, and 24 percent provided some counseling during screening.

Core Services Delivered: Types and Providers

Core services may be provided by staff funded by Even Start or by staff funded by cooperating agencies (e.g., a local Head Start program). Consequently, Even Start project directors were asked to report the types of core services provided to Even Start participants by staff funded through Even Start, by staff supported by cooperating agencies, or by both Even Start staff and cooperating agency staff.

Parenting Education Services

Even Start projects delivered a wide range of services to help parents raise their children. Almost all projects helped families make use of services provided by other social agencies, emphasized parents' role in the education of their children, oriented parents and children to school routines, furnished information about child development, trained parents in child behavior management, worked on building parental self-esteem, and instructed parents in life skills and in principles of health and nutrition.

More than 90 percent of the Even Start projects offered all of the parenting education services identified in Exhibit 5.3. Depending on the specific type of parenting education service, 34 to 55 percent of the projects provided services exclusively through Even Start staff; 36 to 54 percent of the projects delivered services jointly by Even Start staff and by staff from cooperating agencies; and about 5 to 10 percent of all projects provided services completely through cooperating agencies. In a small percentage of projects (fewer than 10 percent) certain types of parenting education services were not provided at all.

Adult Education Services

Exhibit 5.4 summarizes the types of adult education services seen in Even Start projects. Almost all projects (98 percent) reported that they offered services to prepare adults to attain a GED, 86 percent of all projects provided services in adult education, and 92 percent provided services in adult secondary education. Instruction in English as a second language was available in 59 percent of the projects.

The locus of responsibility for adult education services differs from that of parenting education. Except for ESL services, about one-third of the projects provided some of the adult education services directly by Even Start staff, another one-third of the projects provided services by cooperating agencies, and about one-third of the projects offered services jointly through Even Start and cooperating agency staff.

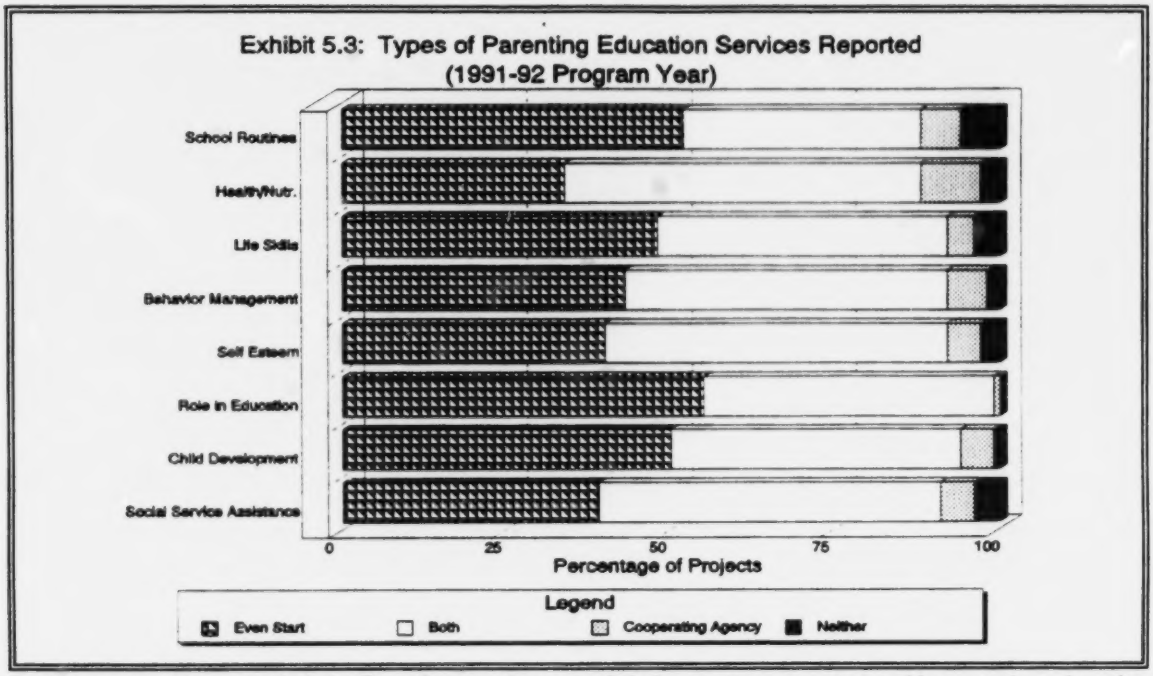


Exhibit reads: Almost half of the Even Start projects used their own resources to provide parenting education in life skills.

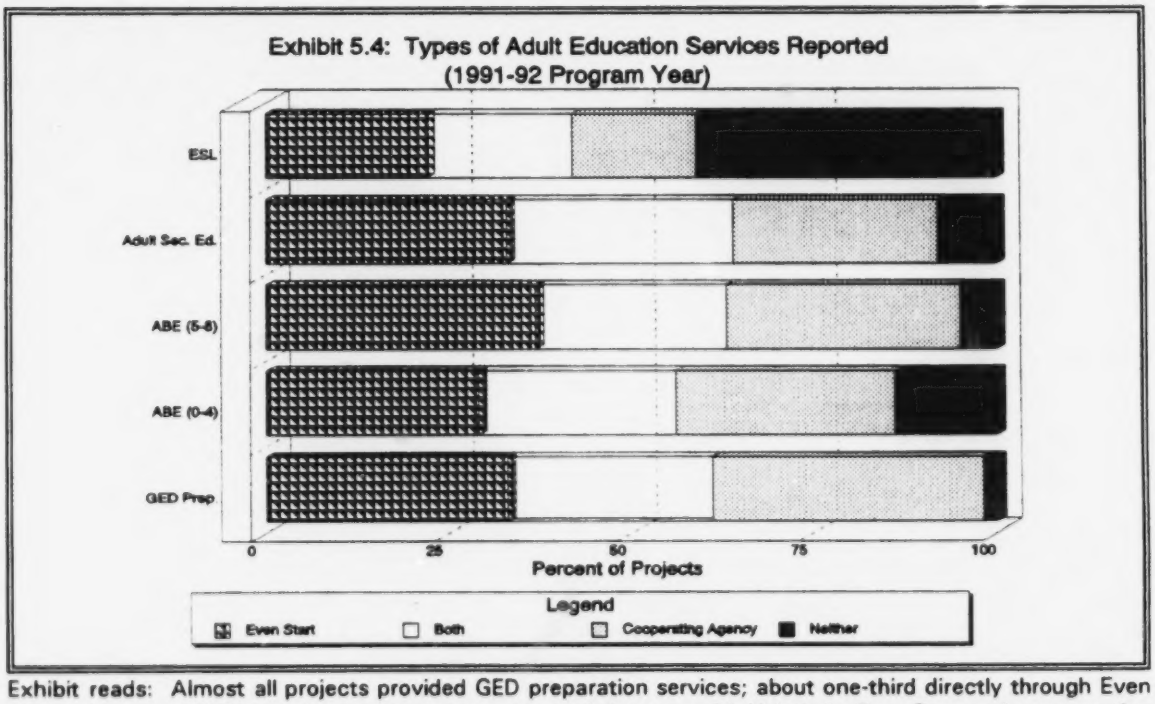


Exhibit reads: Almost all projects provided GED preparation services; about one-third directly through Even Start, about one-third through a cooperating agency, and about one-third jointly by Even Start and a cooperating agency.

Early Childhood Education Services

Children in Even Start projects received a range of early childhood education services, as can be seen in Exhibit 5.5. Three different preschool options were used, with many projects using combinations: (1) 72 percent of the projects enrolled some of their children in Head Start; (2) 46 percent of the projects enrolled some of their children in a Chapter 1 pre-K program; and (3) 93 percent of the projects provided some other preschool option. For children old enough to be in the public schools, most Even Start projects participated in joint planning activities with the public schools. Hence, 85 percent of the projects included kindergarten as an Even Start service, and 74 percent of the projects provided early childhood education services to children under eight years of age who were in primary grades, again through the vehicle of joint planning with the public schools.

As would be expected, all Head Start and Chapter 1 pre-K services were provided by cooperating agencies, as were most kindergarten and primary school services. About 38 percent of the projects provided "other preschool" services directly by Even Start staff. This reliance on existing providers is not surprising given the high cost of early childhood education services and their availability through cooperating agencies and the public schools.

Thus, Even Start projects are most likely to participate in the direct provision of services for parenting education and are more likely to delegate provision of services for adult education and for early childhood education. This fits with Even Start's mandate to build on existing services. In most communities, programs for early childhood education and of adult basic education already exist, and Even Start projects are taking advantage of these ongoing programs. On the other hand, since programs for parenting education are much less likely to exist, Even Start projects are focusing their resources in this area.

Provision of Core Services to Adults and Children Together

Even Start grantees are required to provide some core services to parents and children jointly. This is an important part of the Even Start model in that it impresses on parents that they are a key to their child's education, and provides opportunities for parents to learn and practice skills in working and playing with their children. It allows project staff a chance to offer concrete suggestions to parents as well as guidance and support. Finally, children are able to see that their own parents are important teachers.

More than 90 percent of all projects provided each of the following adult/child activities: reading and story telling, developing readiness skills, social development and play, development of gross motor skills, working with numbers, arts/crafts, and health/nutrition (Exhibit 5.6). Writing activities for parents and children together were undertaken by 85 percent of the projects, and computer-related activities were provided by 64 percent of the projects.

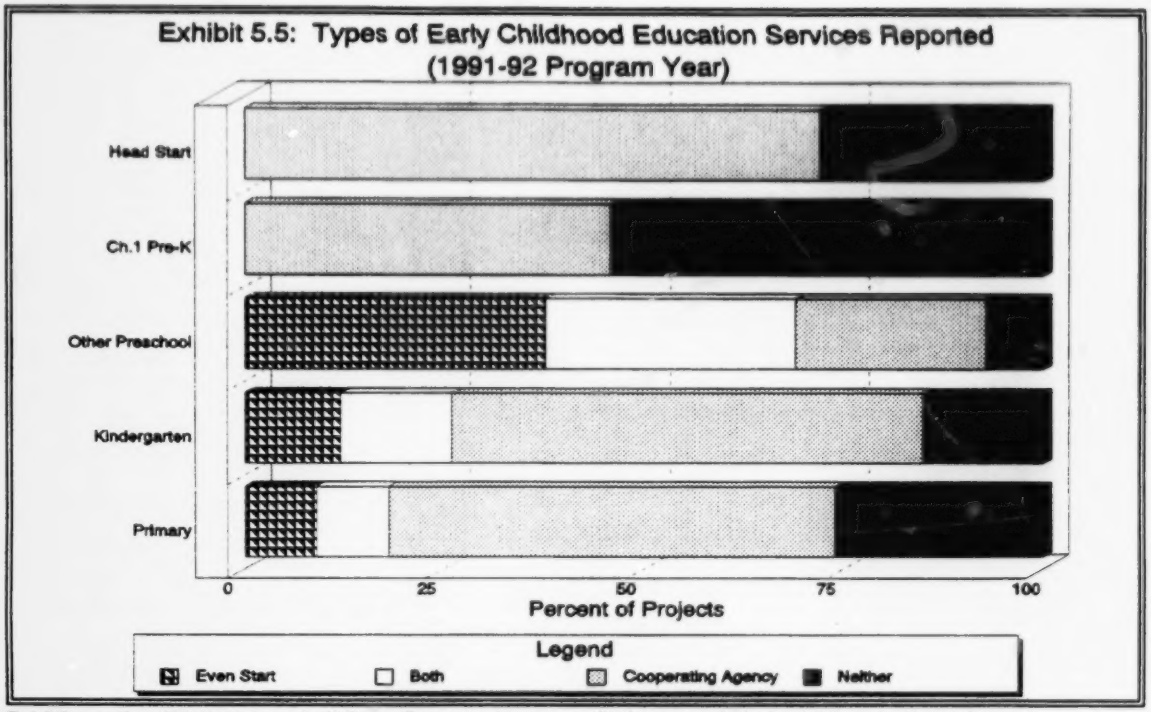


Exhibit reads: 72 percent of all Even Start projects enrolled some of their children in Head Start.

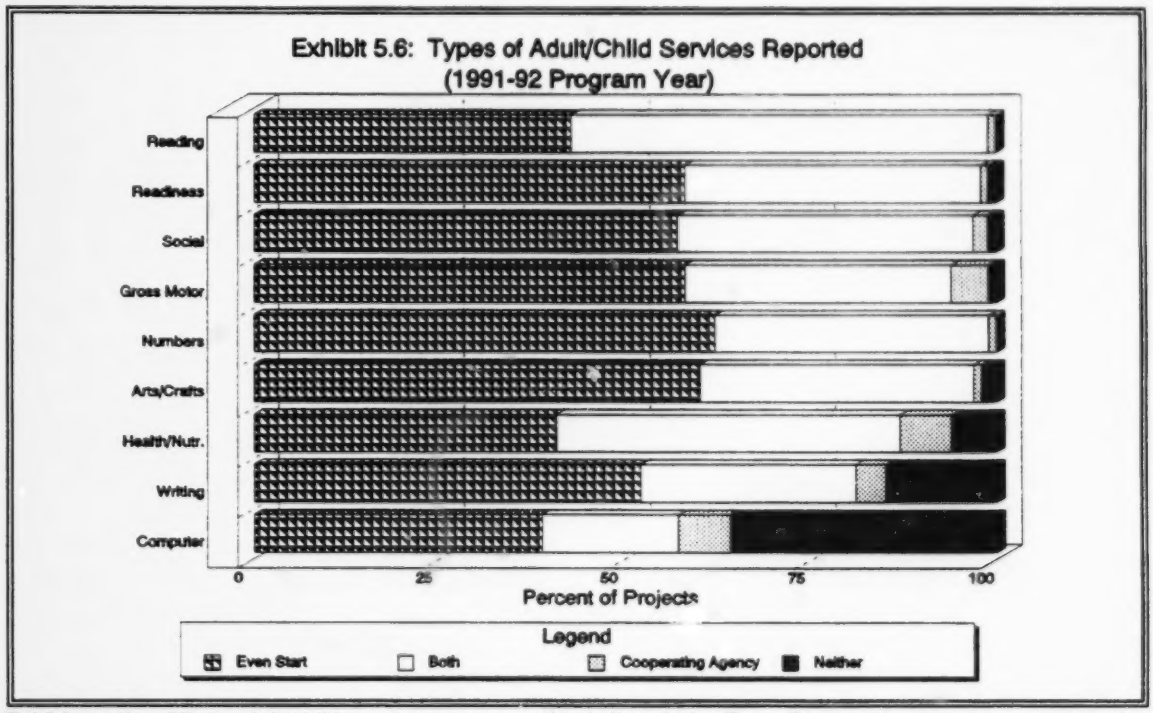


Exhibit reads: Most adult/child services were provided directly by Even Start rather than by a cooperating agency.

It is rare that cooperating agencies are solely responsible for delivering core services using the adult/child service mode. Instead, it is more likely that activities for adults and children together are delivered solely by Even Start or by Even Start in conjunction with a cooperating agency. Depending on the activity, more than half of the projects provided adult/child services directly, about 40 percent shared responsibility with a cooperating agency, and only about 5 percent delegated exclusive provision of adult/child activities to an external agency.

Pattern of Core Services

Core services are offered using two primary patterns: (1) year-round services and (2) services delivered only during the school year. Some projects offered variations on these patterns, such as special month-long courses during the summer. Exhibit 5.7 shows that 68 percent of all projects provided parenting education year-round while 19 percent offered it only for the regular school year; 59 percent of all projects provided adult education year-round, while 24 percent offered it for the regular school year; and 54 percent of all projects provided early childhood education year-round, while 27 percent offered it for the regular school year.

Support Services: Types and Providers

As defined for this study, support services are activities provided directly to Even Start families to enable them to participate in core services. Support services remove barriers that, if unattended, restrict a family's ability to receive instructional and educational services. Such activities as staff development and training, while enabling the project to provide effective services to its clients, are not considered support services because families are not the direct recipients.

To avoid duplication, Even Start projects are expected to obtain support services from existing sources as much as possible. As is seen in Exhibit 5.8, more than 85 percent of the projects provided a wide range of support services including transportation, health care assistance, meals, family advocacy assistance, nutrition services, referrals for employment services, counseling services, child care, and mental health services. Many other support services were provided by at least half of the projects including referrals for child protective services and for battered women, treatment for chemical dependency, and referrals for services needed by persons with disabilities.

Across all types of support services, an average of 22 percent of Even Start projects provided the service directly, cooperating agencies provided support services in 27 percent of the projects, and Even Start and cooperating agencies jointly provided another 28 percent. However, as might be expected, there is substantial variation in the extent to which different support services are provided by Even Start or by cooperating agencies. The percentage of Even Start projects providing support services with their own funds ranged from less than ten percent for health care and services for persons with disabilities

Exhibit 5.7

Term of Year Core Services Are Offered (1991-92 Program Year)

Core Service / Term of Year	Percent of Projects
Parenting education	
Year-round	68%
Regular school year	19%
Other	12%
Adult education	
Year-round	59%
Regular school year	24%
Other	16%
Early childhood education	
Year-round	54%
Regular school year	27%
Other	19%

Exhibit reads: 68 percent of all reporting projects provide year-round parenting education.

to more than 40 percent for transportation and child care. These findings suggest that Even Start projects did, as planned, obtain many support services from existing providers and stepped in to provide services not available locally.

Special Activities

In addition to providing core and support services, Even Start projects offer other occasional or one-time activities for the families they serve. These special activities are used to recruit families, provide information or training, celebrate participant accomplishments, and promote family pride, unity and sense of belonging. Exhibit 5.9 lists several types of special activities. The categories are based on a content analysis of the written responses of projects in both cohorts. Because projects' responses were prompted by an open-end question, the percentage of projects reporting each type of activity is not an accurate indicator of the popularity of each type of activity. Projects may not have reported all special activities since they were on their own to decide which

Exhibit 5.8

Percentage of Projects Providing Support Services and Other Special Activities Through Even Start and/or Cooperating Agencies (1991-92 Program Year)

Support Services	Even Start	Both	Cooperating Agency	Neither
Transportation	42%	41%	14%	4%
Health care	8%	20%	65%	8%
Meals	24%	27%	38%	11%
Family advocacy	35%	44%	11%	11%
Nutrition	15%	42%	31%	13%
Employment	34%	43%	20%	13%
Counseling	16%	40%	30%	14%
Child care	45%	27%	15%	14%
Mental health	24%	48%	13%	15%
Child protective services	2%	12%	54%	32%
Battered women	21%	34%	18%	26%
Chemical dependency	18%	18%	26%	37%
Personal assistance	6%	15%	35%	45%
Translators	22%	12%	14%	52%
Parent stipend	13%	2%	17%	68%

Exhibit reads: Most projects provided transportation services: 42 percent of the projects provided transportation exclusively through Even Start resources, 41 percent through Even Start and cooperating agency resources, and 14 percent exclusively through cooperating agency resources.

special activities were worth reporting. Exhibit 5.9, however, gives a sense of the range of special activities offered by projects.

More than one-half of the projects (57 percent) take participants on field trips. Common destinations included libraries, zoos, museums, historical landmarks, farms, and businesses. Field trips are a way to provide common experiences to encourage learning and parent-child communication and interaction--they usually had an educational component and promoted social interaction.

Exhibit 5.9

Percentage of Projects Reporting Types of Special Even Start Activities (1991-92 Program Year)

Activity	Percent of Projects
Field trips	57%
Parties / picnics / meals	45%
Holiday/seasonal activities	40%
Ongoing recreation / socialization activities	28%
Literacy theme events	26%
Arts / cultural / ethnic activities	21%
Graduation / completion / recognition ceremonies	19%
Community awareness	18%
Special projects	17%
Workshops / training / speakers	10%
School visits / programs	9%
Open house / fair	7%
Social services	6%

Exhibit reads: Fifty-seven percent of all projects conducted field trips as a special activity.

Forty-five percent of the projects organized parties, picnics, and dining (e.g., family potluck meals) activities. These events help establish rapport and trust between the staff and participants, celebrate accomplishments of participants, provide opportunities for adults and children to be together, give adults a chance to support one another, and help motivate them to remain in the program.

Holiday and seasonal activities were offered by 40 percent of the projects. They provide the opportunity for projects to plan educational experiences uniquely associated with special holidays (e.g., Thanksgiving, Christmas, Easter, Martin Luther King's birthday) and integrate them into social occasions.

Events built around literary themes (e.g., day long literary fairs) were reported by 26 percent of the projects. Finally, many types of special events were reported by less than one-quarter of the projects, including arts/cultural/ethnic activities, ceremonies to recognize graduation or completion of requirements, community awareness projects, special projects (e.g., plays, toy making, letter writing, bake sales, puppet shows),

workshops and speeches, school visits, open houses, and assorted social services (e.g., offering banking services to participants, having children fingerprinted).

Many projects (28 percent) organized ongoing recreational and socialization activities for families. Examples include nature walks, going to movies, swimming parties, and attending circus performances. Recreational and leisure activities provide a break from routines and give families the opportunity to be together in a moderately controlled environment, often less stressful than the home. Recreational and leisure activities also offer a nonthreatening context in which to practice newly acquired skills and develop skills in dealing with other people.

Cooperating Agencies and Cooperative Arrangements

Even Start projects are required to establish cooperative arrangements with other agencies to avoid duplicating services. This strategy provides for optimal use of limited resources and allows projects to concentrate resources to fill service gaps. Each project reported on the cooperative arrangements it established to provide core and support services during the 1991-92 program year.

Cooperative Arrangements for Core Services

Even Start projects were involved in 2,808 cooperative arrangements to provide core services during the 1991-92 program year (Exhibit 5.10). This represents an average of 27 cooperative arrangements per project. Fifty percent of the arrangements were for parenting education, 24 percent for adult education, and 26 percent for early childhood education.[1]

A wide variety of organizations cooperated with Even Start projects. The most common was "other departments and programs within the public schools" which accounted for 25 percent of the parenting education arrangements, 23 percent of the adult basic education arrangements, and 35 percent of the early childhood education arrangements. The next most common type of cooperating agency was "local, county, state, or tribal agencies or organizations" which accounted for 24 percent of parenting education arrangements, 20 percent of adult basic education arrangements, and 15 percent of early childhood

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[1]While half of the collaborative arrangements made by Even Start projects are for parenting education, we noted earlier in this report that parenting education is the core service most often provided by Even Start staff. This apparent contradiction is explained by the fact that early childhood education and adult education services are generally available from a relatively small number of existing providers, and Even Start grantees seldom provide these services with their own staff. On the other hand, parenting education covers a wide range of topics and services rarely exist in any organized fashion. Hence, Even Start grantees often provide or coordinate the provision of these services using their own staff. They enter into multiple cooperative arrangements for parenting education services because no single agency is able to provide this service.

Exhibit 5.10

Number and Percentage of Arrangements to Provide Core Services by Type of Organization (1991-92 Program Year)

Type of Organization	Parenting Education		Adult Education		Early Childhood Education		Total
	N	%	N	%	N	%	
Other departments/programs within public schools	345	25%	155	23%	254	35%	754
Postsecondary: college, university, trade-technical school or institute	128	9%	121	18%	53	7%	302
Head Start or Home Start	99	7%	24	4%	81	11%	204
Day care or preschool programs	41	3%	13	2%	66	9%	120
Local, county, state or tribal agencies or organizations	336	24%	137	20%	108	15%	581
Foundations, fraternal groups	93	7%	43	6%	39	5%	175
Volunteer groups	88	6%	64	10%	45	6%	197
Other community-based organizations	151	11%	70	10%	51	7%	272
Church, temple or mosque	57	4%	18	3%	12	2%	87
Other	67	5%	26	4%	23	3%	116
Total	1,405	100%	671	100%	732	100%	2,808

Exhibit reads: Twenty-five percent of all 1,405 cooperating arrangements to provide parenting education were with other departments/programs within public schools.

education arrangements. Other cooperating agencies included postsecondary institutions, Head Start, day care or other preschool programs, foundations, volunteer groups, and other community-based organizations. Although they were mentioned infrequently, religious institutions (church, temple, or mosque) were involved in more than 80 cooperative arrangements.

Exhibit 5.11 displays the percentage of cooperative arrangements by core service area and source of authority over activities. The locus of authority for activities is evenly split between Even Start (about 33 percent of the agreements), the cooperating agency (about 38 percent of the agreements), and joint decision-making (about 29 percent of the agreements).

Exhibit 5.11

Percentage of Cooperative Arrangements to Provide Core Services by Core Service Area and Source of Authority Over Activities (1991-92 Program Year)

Source of Authority Over Even Start Activities	Parenting Education	Adult Education	Early Childhood Education
Even Start	34%	34%	30%
Cooperating Agency	36%	35%	42%
Co-Deciding	30%	30%	27%

Exhibit reads: Thirty-four percent of all cooperative arrangements to provide parenting education were governed by Even Start.

Exhibit 5.12 shows the types of mechanisms used to govern Even Start activities in each core service area. It reveals that decision making arrangements may involve any of the means listed, but that informal agreements are used more often than any other type of coordination (in 45 percent of the cases), with no differences across core service areas. Three other types of decision making are used with roughly the same frequency: informal communication (17 percent), informal advisory groups (15 percent), and formal written agreements (17 percent). Joint boards are used least often (in five percent of the cases).

Cooperative Arrangements for Support Services

Support services enable families to participate in Even Start core services by removing barriers to their participation. The support services most commonly provided through collaborative arrangements were transportation, meals, health care, counseling and child care. Exhibit 5.13 shows that projects engaged in 1,176 cooperative arrangements for support services, and displays the number and percentage of projects providing a particular support service through a cooperative arrangement.

Implementation Problems and Solutions

Two types of implementation issues are addressed in this section. First, each project was asked an open-ended question about major barriers to the implementation of Even Start as well as the strategies or solutions used to deal with the barriers. Second, projects were asked to identify features of the Even Start law or regulations which they felt needed revision to permit more effective implementation.

Exhibit 5.12

Percentage of Cooperative Arrangements to Provide Core Service by Core Service Area and the Means of Reaching Decisions About Activities (1991-92 Program Year)

Means of Decision Making	Parenting Education	Adult Education	Early Childhood Education
Informal communication	16%	18%	17%
Informal agreement	46%	44%	45%
Informal advisory group	16%	14%	12%
Formal written agreement	16%	18%	16%
Joint board	3%	5%	8%
Other	0%	0%	0%

Exhibit reads: Sixteen percent of all cooperative arrangements in parenting education relied on informal communication as a means of reaching decisions about activities.

Exhibit 5.13

Cooperative Arrangements for Support Services (1991-92 Program Year)

Support Service	Number of Cooperative Arrangements	Percent of Projects
Transportation	139	68%
Meals	105	59%
Health care	105	59%
Counseling	143	58%
Childcare	109	51%
Other	156	47%
Nutrition	63	42%
Advocacy	93	38%
Employment referrals	51	32%
Child protective services	33	26%
Referrals for battered women	39	24%
Personal services	38	19%
Chemical dependency referrals	29	14%
Parent stipend	16	13%
Mental health	30	12%
Translators	27	11%
Total	1,176	100%

Exhibit reads: Sixty-eight percent of all reporting projects used cooperative arrangements to provide transportation.

Barriers to Program Implementation

Many different types of barriers were identified by Even Start projects for the 1991-92 program year (Exhibit 5.14). The most common barriers were difficulties in the recruitment, retention, attendance, and motivation of families (41 projects across both cohorts), problems of communication and coordination with cooperating agencies (28 projects), financial problems (20 projects), problems with the evaluation (15 projects), staffing problems (16 projects), and problems with facilities and space (16 projects). Other problem areas included the difficult social service needs of the family and community (12 projects), a lack of quality child care (11 projects), program regulations and limitations imposed by the local Even Start model (10 projects), a lack of local expertise and materials (7 projects), scheduling difficulties (8 projects), problems communicating with families (8 projects), a lack of locally available child care services (8 projects), and a lack of transportation for families (6 projects) or staff (6 projects).

Features of the Law or Regulations that Would Enhance Implementation

Exhibit 5.15 summarizes the responses given when projects were asked about features of the Even Start law or regulations that could be revised in order to enhance program implementation. A companion exhibit (Exhibit 5.16) lists specific comments from projects. The responses are paraphrased to give the reader a quick sense of what, in some cases, were fairly detailed points that projects wished to make.

During 1991-92, 22 projects responding to this item indicated a need to make eligibility criteria more flexible. Twelve projects felt that the law should allow more flexible program design; 11 projects raised general concerns about the evaluation; ten raised specific issues related to the national evaluation; and others expressed concerns about fiscal matters (13 projects); state control (three projects); and administrative concerns (one project). Many of the concerns expressed by projects could be addressed without making changes in the law or regulations, but no attempt to limit responses has been made here. It is worth noting that the number of projects expressing concerns in most areas has dropped from 1990-91 to 1991-92. For example, concerns about eligibility criteria were noted by 57 projects in 1990-91, but only 22 projects in 1991-92. A similar pattern can be seen for all areas.

Technical Assistance Needs

All projects were asked to identify the areas in which they would like technical assistance. Because the item was open-ended, the frequency with which any one area was identified should be interpreted with caution. A priority listing would be better, giving all projects the chance to consider each potential area of need. Nonetheless, responses of projects to the open-ended item gives a rough indication of the prevalence of certain needs.

Exhibit 5.14

Project Implementation Barriers and Resolutions
(1991-92 Program Year)

Barriers	Resolutions
Problems of Recruitment, Retention, Motivation, and Attendance of Participants Number of references: 55 Number of projects: 42	Wrote a proposal to handle these duties for 5 hours per week Allowed one day vacation period right before holidays Provided awards, family trips, awareness of what commitment is Used more literacy materials geared to male interests Provided home-based adult education when necessary Home-based instruction for those with difficulties scheduling classes Call before visit or visit to set up time for home visit, bring small gift Make Even Start an inviting environment; families are to call if they must miss; we visit those who miss Field trips have helped, but not a complete solution. Changed schedule to avoid conflict with migrant programs New volunteer-in-school program to build familiarity with school/staff We accept families for all three core services only Hired new male staff, one to start male support group Offer broader range of training and emphasize hands-on activities Family fun fair for recruitment — 153 attended, enrollment way up. Calls made ahead when possible; we just kept returning to the home Remind contacts frequently of services available Even Start students tell others about program and their success. Opening of center and improved recruitment in Head Start Concentrated services during a shorter time Cannot miss more than three events or they are out of program Getting more firm on requirements, flexible in when to start and break Give incentives, i.e., coupons for fast food restaurants Present parent-child activities before adult education classes; give sessions more structure Using Even Start staff from a school's faculty helps enrollment Better screening so they know this is more than adult education "Bonus bucks" awards to participants; monthly recognition events Money reward for attendance Develop a trusting relationship More frequent/extensive home visits Giving out books helps; use volunteer tutors Family open house change attitudes of man, allowing wife to attend Be non-judgmental, supportive, accepting, build self-esteem Developed alternative places for visits, i.e., library, school sites Staff attempts to involve entire family Invited husbands to attend class and parties, wives counseled Teachers stop by with "lesson packet" for missed lesson Opened ECE Family Center—improved recruitment and participation As JOBS is better-implemented locally, recruitment and participation should improve Follow-up visits to individuals who left program

Exhibit 5.14
(continued)

Project Implementation Barriers and Resolutions
(1991-92 Program Year)

Barriers	Resolutions
Facilities/Space/Equipment Problems Number of references: 18 Number of projects: 16	Made childcare space a top priority Meetings at coordinator's home Exploring possibility of moving program to another school site Now have a big building with separate age-grouped rooms and a gross motor room Negotiating with city for a street sign (clients cannot find facility) Additional space is provided by school district Even Start given priority for portable classroom for 1993 Maintenance department making repairs/remodels Wants to have a classroom just for after-school component Rotate rooms as they are available
Social Service Needs of Families/Community Number of references: 14 Number of projects: 12	Networking and meetings with agencies handling housing Collaborating with Family Mentor Program to provide counseling Make referrals Offer folks a "break" from Even Start Budget revision to add a part time speech pathologist Education and self-esteem building Refer to agencies for social needs Staff development/training to deal with "at risk" population Refer families to social services Locked doors at 5:00 p.m. and moved program to one end of building Referred for further resources in counseling/setting priorities and goals Provided workshops and maintained a link with women's crisis center Limit home-based program to least active hours and not alone
Lack of Quality of Childcare Number of references: 12 Number of projects: 11	Some now receive full time childcare through Project Independence Opened an approved child care center Hired a work-study student to help them with homework A preferred babysitters registry has been piloted this year Social Services is assisting with childcare and they are funding Offered to pay neighbor or relative to babysit, but few accepted Parents found own babysitters, and program reimbursed Cooperative agreement with DHS for childcare reimbursement

Exhibit 5.14
(continued)

Project Implementation Barriers and Resolutions
(1991-92 Program Year)

Barriers	Resolutions
Scheduling Difficulties with Families Number of references: 8 Number of projects: 8	Adjusted class schedules to two 1½ hour sessions (a.m. to p.m.) Individualized instruction, but concerned about budget ramifications Offer to keep in touch; some find they can continue Set up morning and evening classes Staff have flex hours to accommodate the different schedules Instituted an attendance policy: three unexcused misses per month New schedule of five hours per day, two days a week
Communication with Families Number of references: 8 Number of projects: 8	Home visits, one-on-one interaction, easy-to-read notes sent home Home visitors leave notes; schedule visit a month ahead Notes sent home with elementary students Give families postcards to let us know when they will be home
Lack of ECE/ABE/PE Services Locally Number of references: 8 Number of projects: 8	Advanced arrangements with Community College Adult Education Collaborated with local company in developing adult learning center Constant contact with collaborating agencies to develop new resources Emphasizing two and three year-olds for Even Start Implementing GED computer program and high school diploma program
Transportation for Families Number of references: 7 Number of projects: 6	Partially resolved using buses Two, 12-passenger vans purchased and rotated to cover large area Increased communication with various day care centers Head Start Demonstration Project will provide funds for larger bus Home-based instruction for those with difficulties getting to center Using county van when available A day care program provides needed transportation (cooperative effort) Negotiated contract with school district Gave parenting workshops at each of the five satellite centers Meetings during the day at coordinator's house Added second van route, paying mileage to driving parents A church donated space, so we can serve multiple families in that area Tried taxi service, but not reliable Various means: cabs, vendor, pay mileage, bus tickets Paying $.15/per mile Coordinating services with the schools' transportation department Reimbursing parents/volunteers at a mileage rate lessens difficulties Meetings planned with public school transportation director Contracting a van and driver Parents provide transportation in some cases Instituted carpools Located adult/child activities within walking distance of homes Mobile classroom: a used bookmobile was purchased and renovated
Transportation for Staff Number of references: 7 Number of projects: 6	Included transportation costs in salary Classes meet at the Even Start site Increased frequency of maintenance prevents big problems

Exhibit 5.14
(continued)

Project Implementation Barriers and Resolutions
(1991-92 Program Year)

Barriers	Resolutions
Extreme Educational Needs of Parents Number of references: 2 Number of projects: 1	Home visits, attend school functions, students recruiting students, etc. Provide one-on-one instruction via trained adult literacy volunteers

Exhibit 5.15

Features of the Even Start Law or Regulations That May Need To Be Revised to Permit More Effective Implementation
(1990-91 and 1991-92 Program Year)

Features of the Law	Number of Projects	
	1990-91	1991-92
Eligibility criteria	57	22
Program design	33	12
General evaluation concerns	20	11
NEIS forms/instruments	15	10
Fiscal issues	15	13
Concerns about state control	0	3
Administrative concerns	15	1

Exhibit reads: In 1990-91, 57 projects identified eligibility criteria as a feature of the law that needed to be revised.

Exhibit 5.16

Abstracted Project Comments on Features of the Even Start Law or Regulations That May Warrant Revision (1991-92 Program Year)

Features of the Law	Commentary
Eligibility Criteria	Eliminate the requirement that families live in Chapter 1 areas. There is low income outside Chapter 1 schools. Modify requirements to allow for people who move. Poor and needy families live in other than Chapter 1 areas. The main barrier is Chapter 1 service areas. Needy people live outside of the Chapter 1 area. Need to serve families outside our local LEA; families move. What if a school becomes Chapter 1 in-eligible? Must families be dropped? Any parent, regardless of age, should be eligible for Even Start. Services should be provided for children up to the age of nine. Why does family literacy component have to be directed to preschool child only? Age limitation of 7 years prevents help to many. Change age to children younger than sixteen. Thirteen would benefit some areas. Even Start should be available before birth of first child to prevent FAS, etc. Extend age limit so ABE students can get parenting. Allow teen parents not in other programs to be eligible. Should work with all illiterate families regardless of ages. After achieving GED, may want to stop adult education. Allow people with GED to get trained for real work. Should not have to drop ABE when they receive GED. DSS referrals are "psychologically at-risk", but do not qualify. Clarify who will receive services when target child turns eight. Clarify who will receive services when target parent finishes. Definition of "need" requires a better explanation. Allow current migrant to stay in Even Start if they settle. Drop the requirement of current migrant status for migrant program participants. Eligibility criteria need to be more flexible.

Exhibit 5.16
(continued)

Abstracted Project Comments on Features of the Even Start Law or Regulations That May Warrant Revision (1991-92 Program Year)

Features of the Law	Commentary
Program Design	Clarify regulations to allow dual use of classrooms for public school and Even Start. Eliminate NDN requirements in Even Start legislation. Guidelines for core services need to be reconsidered. Rural programs need to be specially designed to accommodate transportation/childcare Improve guidelines (e.g., what constitutes participation?) Mandate Chapter I, II, Even Start, Head Start work together. Regulations needed for other federal programs to provide collaboration with Even Start. We need written guidelines to identify which government program will service what families. Allow for transition from GED to higher education.
General Evaluation Concerns	Revise the testing requirements. A voluntary program needs a better way to gather data. Eliminate testing of parents and children. We need clarity on responsibility and extent of evaluation. Submit DQI forms six weeks prior to end of reporting period. We would like the DQI sent at a different time (sooner). DQI information needs to be handled more efficiently. Evaluation takes a third of staff time. The new Form II helped. We spent 378 hours in June 1992 for 187 families. Paperwork remains time-consuming and confusing. The paperwork in May is overwhelming. Reduce paperwork — it is too labor intensive. Sample participant information instead of every family.
Concerns About State Control	Concerned that funding will be administered unevenly. Concerned about law that hands programs to state level. Even Start state representative opposed to refunding anyone, thus must be mandated by Federal government. State will not allow us any funding after year four.
Administrative Concerns	Change in-kind requirements. Make Even Start funding coincide with local/state fiscal years.

The number and percentage of projects requesting each type of technical assistance are presented in Exhibit 5.17. The most frequent need identified by projects was for evaluation assistance, including the completion of the NEIS forms (16 percent). This is a substantial decrease from the percentage of projects that wanted assistance in evaluation during 1990-91.

All three core service areas were identified by five percent of the projects as areas in need of technical assistance. Projects asked for information on effective parent-child interaction activities, selecting appropriate parenting curriculum materials for Even Start parents, getting parents involved in the education of their children, accessing ideas from research on parental involvement, and finding materials appropriate for home-based activities. Similar needs for materials and activities were identified for early childhood education. Most of the assistance needs in adult education were general (e.g., "the adult learner," adult education) suggesting more basic needs for assistance in that area.

The remaining areas of assistance listed in Exhibit 5.17 are self-explanatory. Thirteen percent of the projects were interested in cross-project sharing of information to learn more about running responsive and effective Even Start programs; seven percent of the projects wanted assistance in staff development; six percent wanted help with funding, and five percent or fewer projects requested technical assistance in a variety of other areas.

Exhibit 5.17

Areas of the Program for Which Technical Assistance Is Wanted (1991-92 Program Year)

	Percent of Projects
Evaluation/NEIS	16%
Cross project sharing	13%
Staff development	7%
Funding/fiscal issues	6%
Increasing participant involvement	6%
Curriculum materials	6%
Integrating components	6%
Program administration	6%
Parenting information	5%
Early childhood education	5%
Adult education	5%
Transition to state administration	5%
Home visits	4%
Computer uses	4%
Interagency collaboration	4%
Local evaluation/assessment	4%
Recruiting participants	3%
Effective practices	2%
Social problems	2%
PEP/NDN	2%
Transportation	1%
Information on technical assistance available	1%

Exhibit reads: Sixteen percent of all reporting projects requested technical assistance in evaluation/NEIS.

Section Six

Participation in Even Start Core Services

This section presents data that describe the length of time families participate in Even Start core services, reasons for exiting the program, the amount of service delivered, and information on service delivery modes. The data are drawn from the National Evaluation Information System (NEIS), and represent projects from Cohorts 1 and 2 as well as projects for migrant families. Data are combined across cohorts, except in instances where separating the cohorts illuminates findings.

Background

Although the law and regulations do not specify any set length or intensity of participation in Even Start, the program is intended to serve families which have low-literate adults and have children younger than eight years of age. It can take time to remedy literacy problems, and the law and regulations allow projects periods of up to four years. This permits projects to provide relatively long-term, multi-year services. Moreover, the law requires grantees to encourage participants to remain in the program for a time sufficient to meet program goals. Some projects intentionally recruit families with very low-literate adults and plan to serve them for several years, while other projects plan to provide shorter-term services to families that have an adult who can reasonably expect to attain a GED within the coming year.

The Department of Education's expectation is that all Even Start families will participate fully in the program throughout the period that they are enrolled. This means that each family should take part in each of Even Start's three core services during their involvement with the program.

This evaluation has multiple measures of program participation. One measure comes from an annual interview with a family member, usually the mother, conducted by Even Start staff. On the interview form, project staff indicate whether, during the year, the family was an active participant in each of the three core services. This judgement on the part of the project staff member provides a binary measure of participation in each core service area for each family for each year of the evaluation. A second measure of program participation comes from monthly "contact logs" which are used by project staff to record the number of hours of participation each month by each family in each core service area. Contact log data are matched against the annual interview data, and a family is counted as participating during the year in a given core service either if there is one or more contact logs indicating that the family spent time in programmatic activities, or if the annual interview indicated that the family was an active participant.

The process described above yields a yes/no measure of participation in each program year rather than a measure of quantity of participation. However, multiple measures of the quantity of service received in Even Start are obtained from the contact log data. One such measure is a count of the number of months for which contact log data are submitted; this is used as an indicator of the length of participation in the program. A second measure derived from contact logs is the number of hours spent in each core service area; this is operationalized in variables such as the total number of hours spent in each core service area (during a child's or adult's tenure in Even Start), and the number of hours spent in each core service area on a monthly basis.

Methods of Recruiting and Retaining Even Start Families

Recruiting, retaining, and motivating families to participate in Even Start are important activities undertaken by each project.

Recruitment Strategies

Projects use a variety of recruitment strategies to inform parents about the program and encourage them to enroll. During the start-up of a project, when families are unfamiliar with Even Start, in-person recruitment is the most successful approach. Over 50 percent of projects use home visits to recruit families, which includes both door-to-door "cold calls," where staff fan out in neighborhoods and talk with parents of young children, as well as appointments made to follow up on inquiries. Once the project is more well-known in the community, home visits are a less frequent recruitment strategy. More commonly, families are referred by other families, the school system, or community agencies.

Both project directors and parents indicate that adult education is often the "hook" that brings families into Even Start. Many adults are interested in getting their GED in order to find employment or get better jobs. For some mothers, the child in Even Start may be their youngest, and they are looking ahead to the time when the child enters public school and the mother has fewer child care needs. Other mothers have indicated that as their children get older and progress in school, they are faced with the dual challenges of not having the reading and math skills to be able to help children with school work and, at the same time, encouraging their children to stay in school when they themselves dropped out. As one Even Start mother explained, "When my child came home from school with a book that I could not read or understand, I knew it was time for me to go back to school."

The early childhood component of Even Start also is attractive to parents. In some cases, the early childhood program is seen as providing the necessary child care to enable parents to attend adult education classes. Especially in communities with limited public preschool options, the Even Start early childhood component is a valued commodity.

Retention Strategies

Maintaining parent participation is a continual challenge for Even Start projects and most incorporate incentives of one kind or another to encourage families to participate. Contracts or rules for attendance are one type of retention strategy. Contracts help to clarify parents roles and responsibilities (e.g., turn off the television during home visits or work through activity kits with their children at home). Contracts also are used to identify a specified level of participation in certain activities, such as attending adult basic education classes a minimum of twice a week, participating in two parenting workshops a month, or volunteering in their child's classroom at least twice a month.

Projects work hard to maintain participation levels and understand that they often have to make extra efforts to encourage reluctant parents. Project staff report that regular participation depends greatly on the ability of staff to "bond" with program participants, as well as the degree to which participants come to see Even Start as providing a useful support system. Some projects use participants to recruit and retain other participants. As one mother put it while trying to talk a friend into attending, "If I can do this, so can you."

If parents are not participating fully, project staff often make special home visits to determine whether families are still interested in the program. Some projects have interim strategies that they put in place before they terminate a family. For example, a family that does not attend regularly may temporarily lose transportation services. Staff indicate that attendance policies serve to reinforce the idea that keeping an appointment is an important life skill that parents need to learn. Further, while project staff are always reluctant to have families drop out of the program, they recognize that it is necessary to know when families are no longer actively participating in order to offer that slot to other interested families. Letting parents know others are interested in the program sends the message that it is a limited and valued resource.

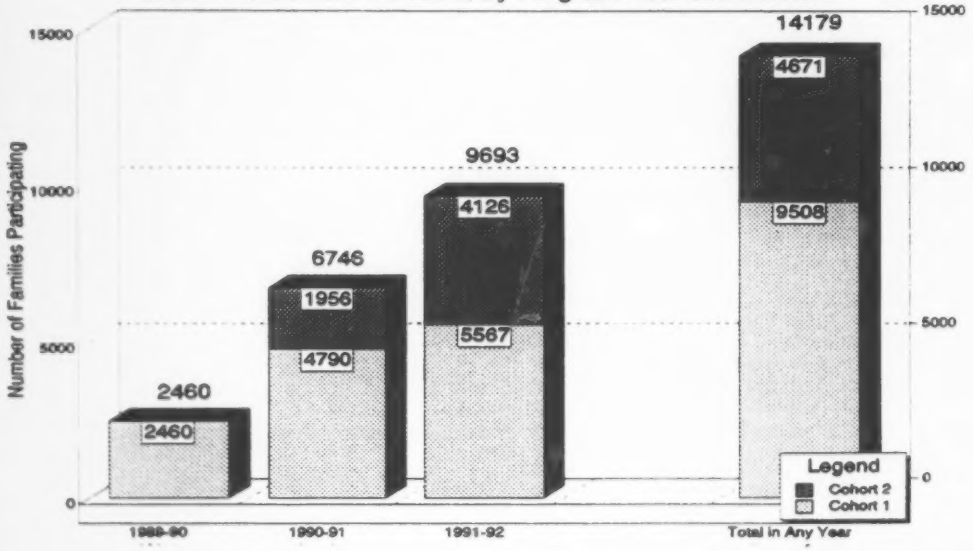
Projects provide tangible rewards for participation including prizes such as books and fans (in warm-weather climates) as well as t-shirts and certificates for attendance. Some projects let parents accrue "credits" for good attendance, which they can use to make purchases from an Even Start store stocked with household necessities (e.g., toothpaste or detergent) or to participate in special outings and field trips.

Other incentives are woven into program activities. Food is particularly successful in enticing parents to attend activities. More than half of the projects indicate that they have potluck suppers, picnics, or simple meals for families.

Number of Participating Families

Participation in Even Start has been increasing over time. This is due both to the addition of new projects and to the increased efficiency of projects over time. The number of families that participated in Even Start core services is shown in Exhibit 6.1. This exhibit

Exhibit 6.1: Number of Families Participating in Even Start Core Services, by Program Year and Cohort



Note: Does not include 1991-92 statistics on Cohort 3 projects that are being collected by Pelavin Associates.

Exhibit reads: Cohort 1 projects served 2,460 families in 1989-90.

includes data from projects first funded in 1989 or 1990, but does not include data from projects first funded in later years.

Cohort 1 projects began in the 1989-90 school year, and 2,460 families participated in some core service during that year. Participation in those same Cohort 1 projects grew to 4,790 families in 1990-91 (an increase of 95 percent), and to 5,567 families in 1991-92 (an increase of 126 percent over the first year). Thus, the same projects, with the same level of resources, were able to serve more than twice as many families in their third year of operations as in their first year. The rate of increase was less from the second to the third year of operations than from the first to the second, and we expect that the third year numbers are relatively close to "steady state" levels, i.e., if projects were to be funded at the same levels for additional years, we would not expect the number of participating families to change appreciably.

The large increases in numbers of families served over time can be attributed to the projects' need to deal with normal implementation problems in the first year of program operations (e.g., time had to be spent defining the program, recruiting staff, setting up operations) and the general difficulty of starting up a new program. Once these problems had been solved, projects became more efficient with the extra time and resources being devoted to recruiting and serving additional families.

A similar pattern is seen for Cohort 2 projects. A total of 1,956 families were served in Cohort 2 projects during 1990-91 (their first year of operations), and 4,126 families (a 111 percent increase) were served in 1991-92.

Participation Rates in Core Service Areas

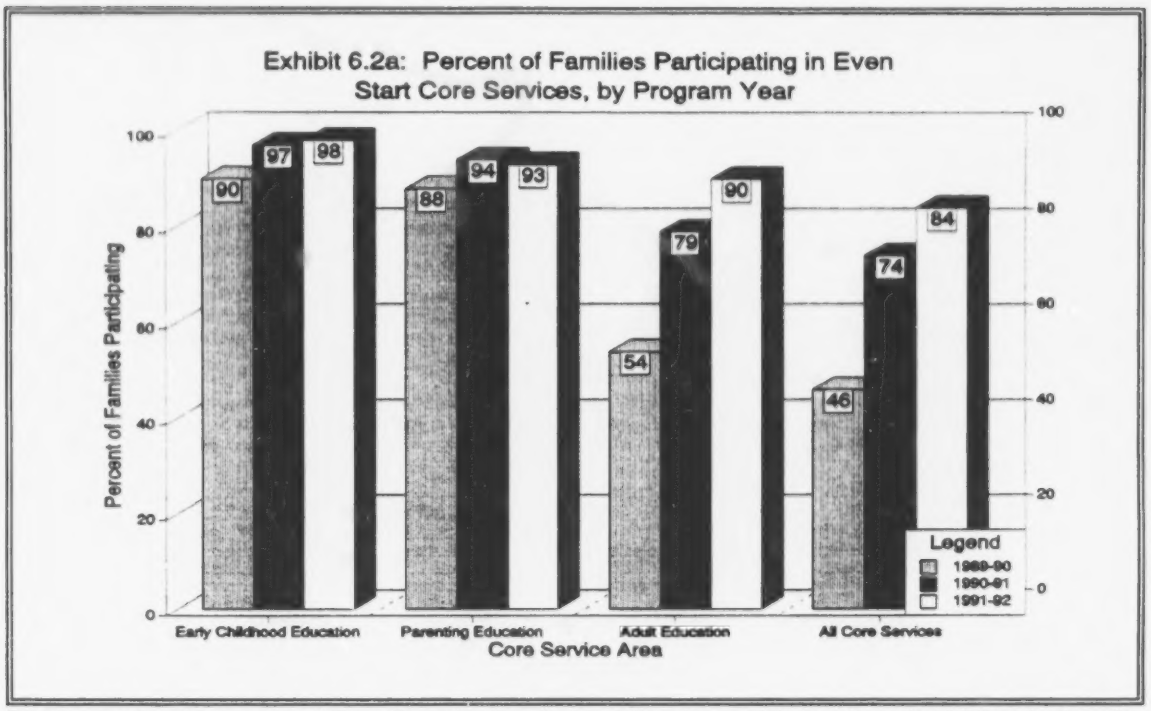
The Department of Education expects that all Even Start families will participate in each of the three core service areas during their time in the program. Exhibit 6.2a shows the percentage of families that participated in each core service area during the three years of study. Almost all Even Start families had a child that participated in early childhood education during each year of the evaluation: 90 percent participated in 1989-90, 97 percent in 1990-91, and 98 percent in 1991-92. Participation rates for parenting education were a little lower; 88 percent of families had a participating adult in 1989-90, 94 percent in 1990-91, and 93 percent in 1991-92. At the beginning of Even Start, participation rates were lowest for adult education (54 percent in 1989-90). The Department of Education and local projects have worked hard to increase participation in adult education to 79 percent in 1990-91 and again to 90 percent in 1991-92. The percentage of families that participated in all three core service areas also has increased over the three years of study, from 46 percent to 74 percent to 84 percent.

There seems to be approximately 20 percent of Even Start families that participate in one, but not both, of the adult-focused core service areas. Exhibit 6.2b contains detailed data on the number and percentage of participants by cohort and by year of the study. The cumulative statistics at the bottom of the exhibit show that almost all families (98 percent) participate either in adult education or in parenting education, but that only 80 percent of all families participate in both adult education and parenting education.

Project-Level Variation in Participation Rates

Participation rates are not uniform across Even Start projects. And, in fact, the averages presented above mask great project-to-project variation. Exhibit 6.3a is a distribution of project-level participation rates in all three core services. The shape of the distribution shows that most projects are able to engage a large percentage of their families in all three core services: 90 percent or more of the families participated in all core services for 65 of the projects. It also shows that all families participated in each core service in 15 projects, while less than 60 percent of the families participated in each core service area in 8 projects.

Exhibits 6.3b, 6.3c and 6.3d are distributions of project-level participation rates for each of the three core service areas. The distributions look roughly similar in shape, however, it can be seen that projects are much more likely to have very high participation rates for early childhood education and parenting education than for adult education.



Exhibits reads: 90 percent of Even Start families had a child who participated in early childhood education during the 1989-90 program year.

Multi-Year Participation

Although Even Start projects are funded for four years, very few families take part for that amount of time. This fits with reports from project directors who, in the early years of the evaluation, identified the recruitment, retention, and motivation of families as the most common barrier to effective program implementation.

Exhibit 6.4 shows that 55 percent of the families that began Even Start in Cohort 1 projects during the 1989-90 year participated only in that first year, 25 percent participated in both the first and second program years, and 20 percent participated in three years. A similar pattern seems to be emerging for Cohort 1 families who started their participation in Even Start during 1990-91. On the other hand, Cohort 2 projects appear to be more successful at retaining families across years. Of all Cohort 2 families that began Even Start in 1990-91, 28 percent participated for one year, and 72 percent continued into a second year.

These percentages are informative, but they are limited in that they only identify a family as having participated or not in a given year. They tell us nothing about the amount of participation during that year. A more detailed look at length of participation is given by Exhibit 6.5 which draws on monthly contact log data to show the number of months of

Exhibit 6.2b Number and Percent of Families Participating in Even Start Core Services

Core Service	Cohort 1		Cohort 2		Migrant		Total	
	N	%	N	%	N	%	N	%
1989-90 Participation								
Adult education	1,325	54%					1,326	54%
Parenting education	2,161	88%					2,166	88%
Early childhood education	2,223	90%					2,223	90%
Adult education or parenting education	2,345	95%					2,345	95%
Adult education and parenting education	1,141	46%					1,141	46%
All core services	1,127	46%					1,131	46%
Total families	2,460	100%					2,460	100%
1990-91 Participation								
Adult education	3,730	78%	1,577	81%	18	100%	5,325	79%
Parenting education	4,517	94%	1,796	93%	17	94%	6,330	94%
Early childhood education	4,649	97%	1,884	97%	18	100%	6,551	97%
Adult education or parenting education	4,727	99%	1,869	96%	18	100%	6,614	98%
Adult education and parenting education	3,520	73%	1,504	78%	17	94%	5,041	75%
All core services	3,476	73%	1,497	77%	17	94%	4,990	74%
Total families	4,790	100%	1,938	100%	18	100%	6,746	100%
1991-92 Participation								
Adult education	4,980	89%	3,615	91%	113	84%	8,708	90%
Parenting education	5,198	93%	3,714	93%	133	99%	9,045	93%
Early childhood education	5,433	98%	3,908	98%	134	100%	9,475	98%
Adult education or parenting education	5,442	98%	3,915	98%	134	100%	9,491	98%
Adult education and parenting education	4,736	85%	3,414	86%	112	84%	8,262	85%
All core services	4,674	84%	3,372	84%	112	84%	8,158	84%
Total families	5,567	100%	3,992	100%	134	100%	9,693	100%
1989-92 Participation (Cumulative)								
Adult education	7,787	82%	4,097	90%	121	86%	12,005	85%
Parenting education	8,884	93%	4,286	95%	139	99%	13,309	94%
Early childhood education	9,142	96%	4,444	98%	140	100%	13,726	97%
Adult education or parenting education	9,313	98%	4,452	98%	140	100%	13,905	98%
Adult education and parenting education	7,347	77%	3,923	87%	120	86%	11,390	80%
All core services	7,277	77%	3,885	86%	120	86%	11,282	80%
Total families	9,508	100%	4,531	100%	140	100%	14,179	100%

Exhibit reads: 54 percent of all Even Start families had an adult who participated in adult education during the 1989-90 program year.

Exhibit 6.3a: Distribution of Participation Rates by Project for All Core Services (1989-92)

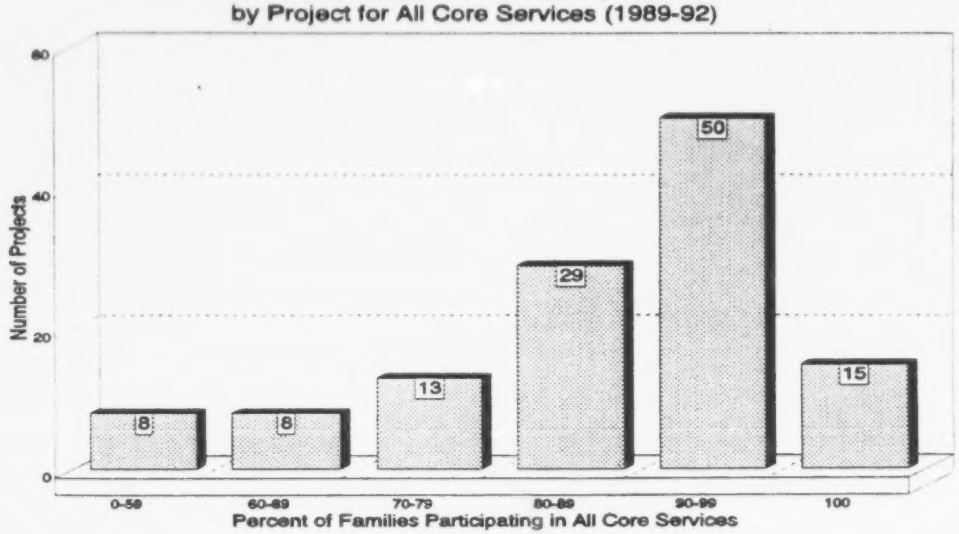


Exhibit reads: In 15 projects, 100 percent of the families participated in all three core services.

Exhibit 6.3b: Distribution of Participation Rates by Project for Adult Education (1989-92)

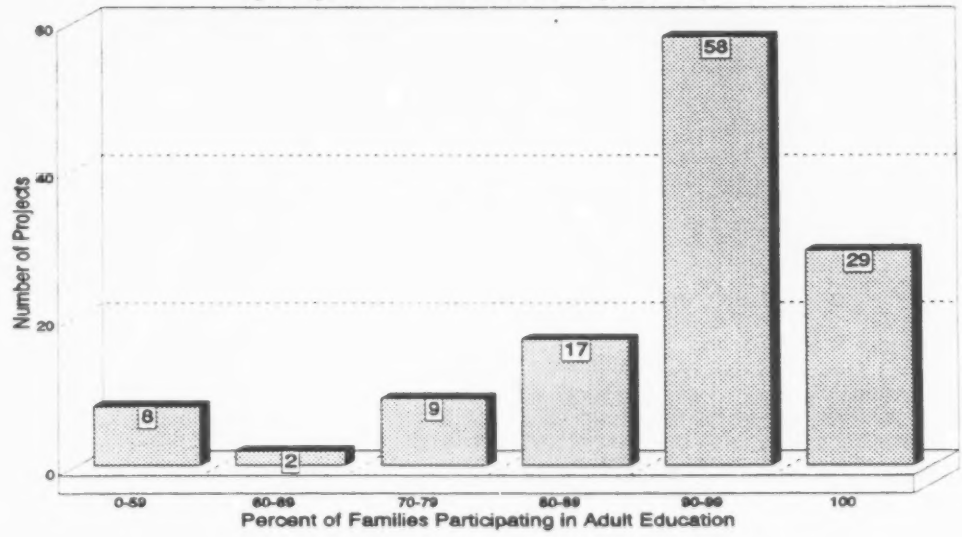


Exhibit reads: Less than 70 percent of the families participated in adult education for ten projects.

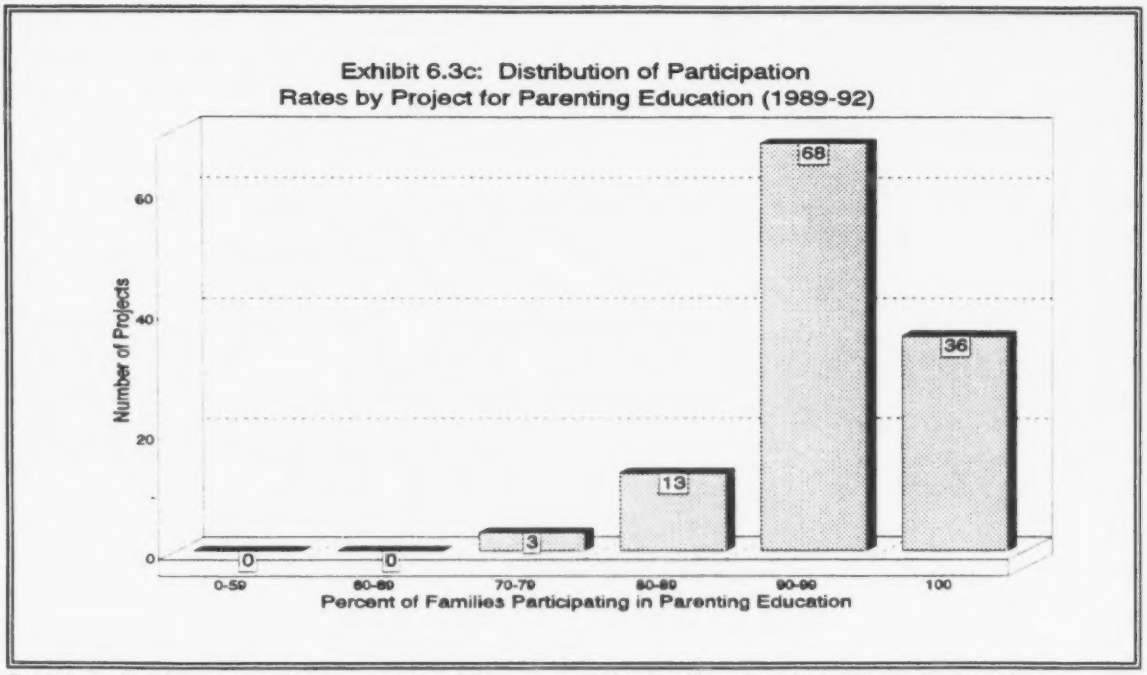


Exhibit reads: In most projects more than 90 percent of the families participated in parenting education.

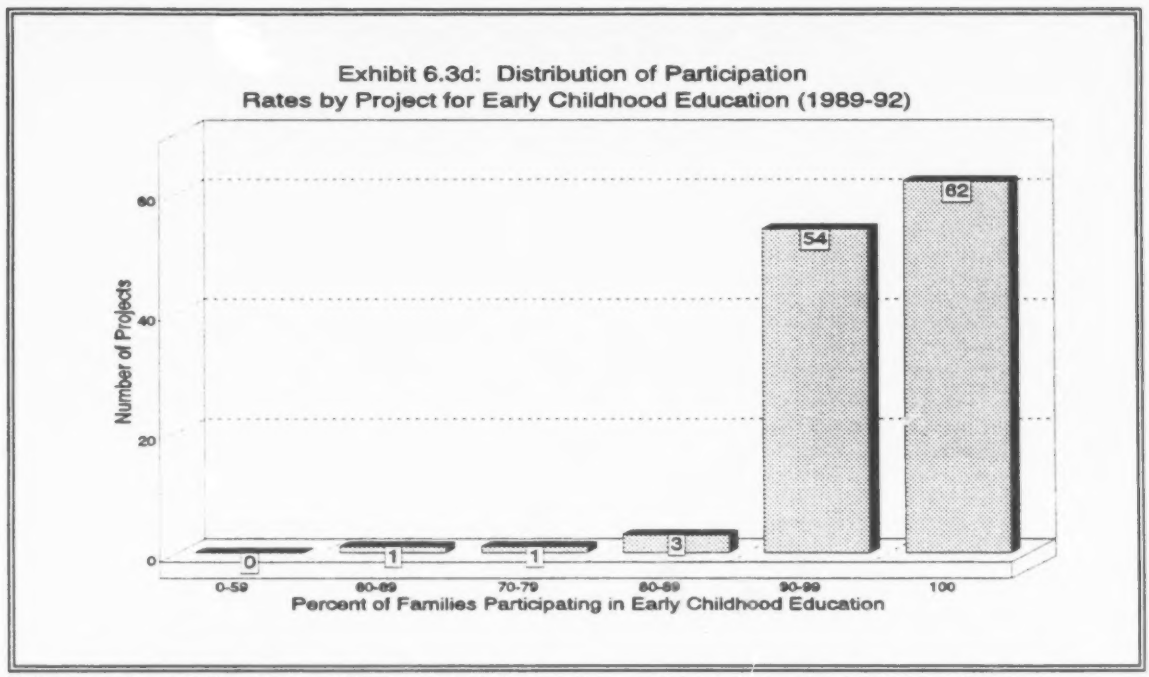


Exhibit reads: In 58 projects, 100 percent of the families participated in early childhood education.

Exhibit 6.4

Years of Participation by Cohort and Year of Intake

Cohort	Intake Year	One Year		Two Years		Three Years		Total
		N	%	N	%	N	%	
Cohort 1	1989-90	1,352	55%	641	25%	312	20%	2,460
	1990-91	2,088	57%	1,175	43%			3,652
	1991-92	3,387	100%					3,387
Cohort 2	1990-91	545	28%	1,239	72%			1,937
	1990-91	2,586	100%					2,586

Exhibit reads: Among families entering Even Start at a Cohort 1 site during 1989-90, 55 percent participated only in that program year while one quarter (25 percent) also participated during 1990-91 and one-fifth (20 percent) participated in all three program years.

Exhibit 6.5: Number of Months of Participation for Even Start Families Starting in 1990-91

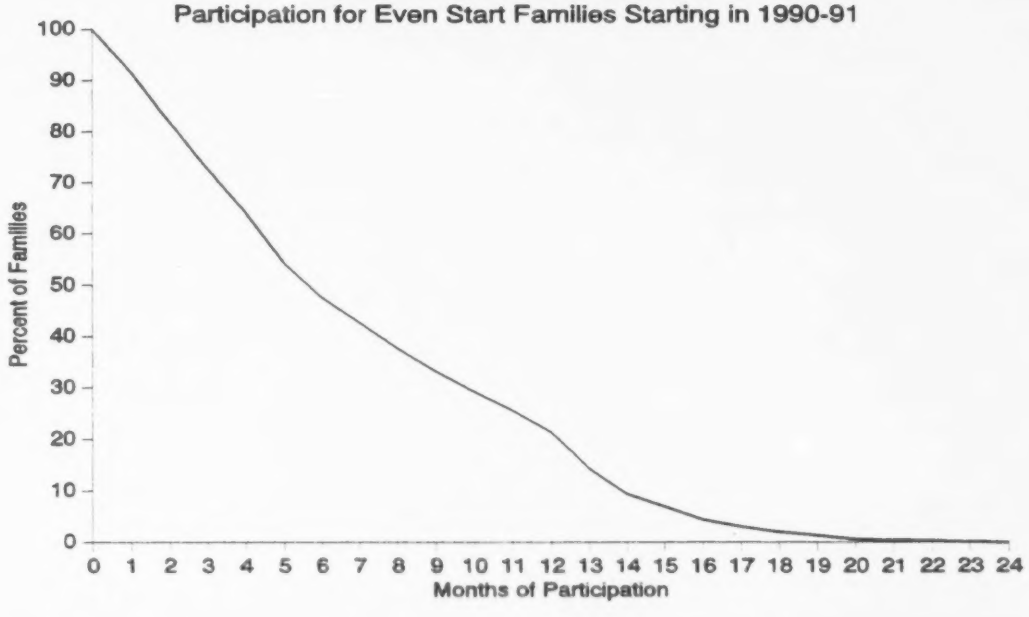


Exhibit reads: About half of Even Start families that began the program in 1990-91 participated for six or fewer months.

participation over a 24-month period for Even Start families that began the program in the 1990-91 year. The months of service do not have to be consecutive, so that a family who participates in core services during October, skips November and December, and participates again in January would have two months of participation.

The exhibit shows that about one-quarter of the families (27 percent) that began the program in 1990-91 received some core services in three or fewer out of the total possible 24 months, about one-half of the families (52 percent) participated for six months or less, about two-thirds (67 percent) participated for nine months or less, and about four-fifths (79 percent) participated for 12 months or less. Conversely, 21 percent participated for more than 12 months.

Reasons for Exiting from Even Start

There are many reasons for turnover of families in Even Start (see Exhibit 6.6). Some of these are positive, e.g., a parent found a job and moved out of the project's catchment area, and some are negative, e.g., the family lost interest or the program didn't meet their needs. A reason for leaving was reported for only about half of the families that left the program. Project staff are, in many cases, unable to track families as they depart. Families that exited the program for unknown reasons may be different in important ways from families that exited for a known reason. For example, families which leave for unknown reasons may be more likely to move, to be dissatisfied with the project, or to be difficult-to-reach families than families that leave for a specific reason.

Based on families where there was a reason for leaving, completion of the planned educational program was listed for 27 percent of families that exited Even Start. This includes families where all members completed their educational program as well as families where parents obtained their GED or a full time job, at which time the entire family exited the program.

Moving out of Even Start's catchment area was the most common reason for leaving the program, listed for 31 percent of families. This large percentage of movers raises the issue of whether project directors are aware of and are using their option to continue serving families that have moved but are close enough to continue participation (i.e., moved to another catchment area in the same school district).

Fourteen percent of the families left Even Start because of a general lack of interest in the program and a subsequent refusal to participate. Another 14 percent had a family crisis of one sort or another that prevented them from participating. Seven percent left the program because they became ineligible due to a change in the family situation, i.e., there was no longer an eligible child or adult in the family. This could be due to federal or local eligibility requirements. Six percent gave a variety of reasons which suggested personal or structural conflicts or barriers to continued participation. These included medical reasons, work conflicts, pregnancy, scheduling conflicts, child care problems, and a lack of transportation.

Exhibit 6.6

Reasons for Leaving Even Start (1991-92 Program Year)

Reason for Leaving	N	Percentage of Families Giving A Reason
No reason given	4,235	---
Reason given	4,369	100%
Completed planned educational program	1,174	27%
Moved from area	1,366	31%
Family crisis	608	14%
Lack of interest, refused to participate	618	14%
No longer eligible (federal or local requirements)	321	7%
Conflicts, barriers to participation	221	6%
Other	61	1%

Exhibit reads: 27 percent of the families which left Even Start did so because they successfully completed their planned educational program.

Amount of Core Services

The contact logs compiled by Even Start staff record the amount of time spent in each core service area on a monthly basis. The mean amount of service for each core service area is substantially higher than the median, indicating that some families receive very large amounts of service, while many more received relatively small amounts of service. We present both medians and means in the following discussion; in this situation, the median is a better representation of the typical Even Start family since it is relatively unaffected by outlying values.

Total Hours of Services Received

The typical Even Start family received core services in approximately six different months during their enrollment in Even Start (Exhibit 6.7a). The total amount of service received

Exhibit 6.7a

Measures of Amount of Core Services

Core Service	Percentiles			Mean	SD
	25%	50% (Median)	75%		
Total hours served (1990-91 cohort)					
Adult education	14	39	107	85.7	121.8
Parenting education	10	27	59	48.9	76.5
Early childhood education	17	84	287	188.9	246.4
Total months served (1990-91 cohort)					
Adult education	3	5	10	6.4	4.5
Parenting education	3	6	11	6.8	4.7
Early childhood education	3	6	10	6.6	4.4
Average hours per month					
Adult education	4	8	16	12.6	13.3
Parenting education	2	4	8	6.5	7.1
Early childhood education	4	14	37	24.6	26.5

Exhibit reads: Adults entering Even Start in 1990-91 participated in an average of 85.7 total hours of adult education. The median adult participated in only 39 hours. The difference between the average and the median reflects the fact that while most individuals participated only a few hours, some received many hours of service.

by the typical family during their enrollment in Even Start is a median of 39 hours for adult education (mean of 86), 27 hours for parenting education (mean of 49), and 84 hours for early childhood education (mean of 189).

There is great variation in the total amount of core services received by Even Start families. Exhibit 6.7b is a distribution of total hours of adult education. It shows that more than half of the adults entering Even Start in 1990-91 received less than 50 hours of adult education, 17 percent received between 50 and 100 hours, 9 percent received between 100 and 150 hours, and so on. Small percentages of families received very large amounts of adult education, (e.g., 9 percent received more than 250 hours).

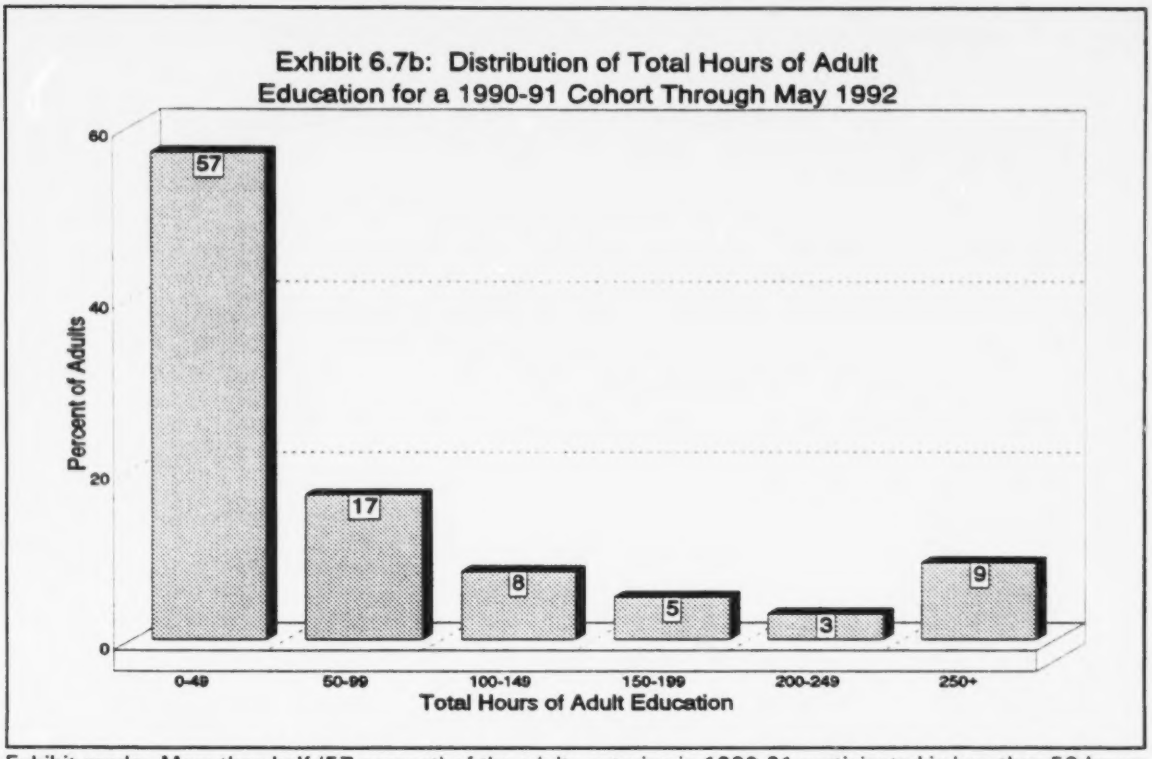


Exhibit reads: More than half (57 percent) of the adults entering in 1990-91 participated in less than 50 hours of adult education.

Note: Based only on months in which some core services were received.

A similar pattern can be seen for parenting education (Exhibit 6.7c) and for early childhood education (Exhibit 6.7d). Seventy percent of Even Start families received less than 50 total hours of parenting education, 18 percent received between 50 and 100 hours, 6 percent received between 100 and 150 hours, and about 6 percent received over 150 hours of parenting education. For early childhood education, 42 percent of the families received less than 50 total hours, 12 percent received between 50 and 100 hours, and the remaining 46 percent received more than 100 total hours, ranging up to over 600 hours of instruction.

Monthly Hours of Service Received

The typical Even Start family received 8 hours of adult education (mean of 13 hours), 4 hours of parenting education (mean of 7 hours), and 14 hours of early childhood education (mean of 25 hours) per month (Exhibit 6.8a). This could equate to a once-a-week adult education class for two hours per week and a once-a-week parenting education visit or class for one hour per week. However, the data for early childhood education need to be further analyzed in order to see how amount of service varies by age of child.

Exhibit 6.7c: Distribution of Total Hours of Parenting Education for a 1990-91 Cohort Through May 1992

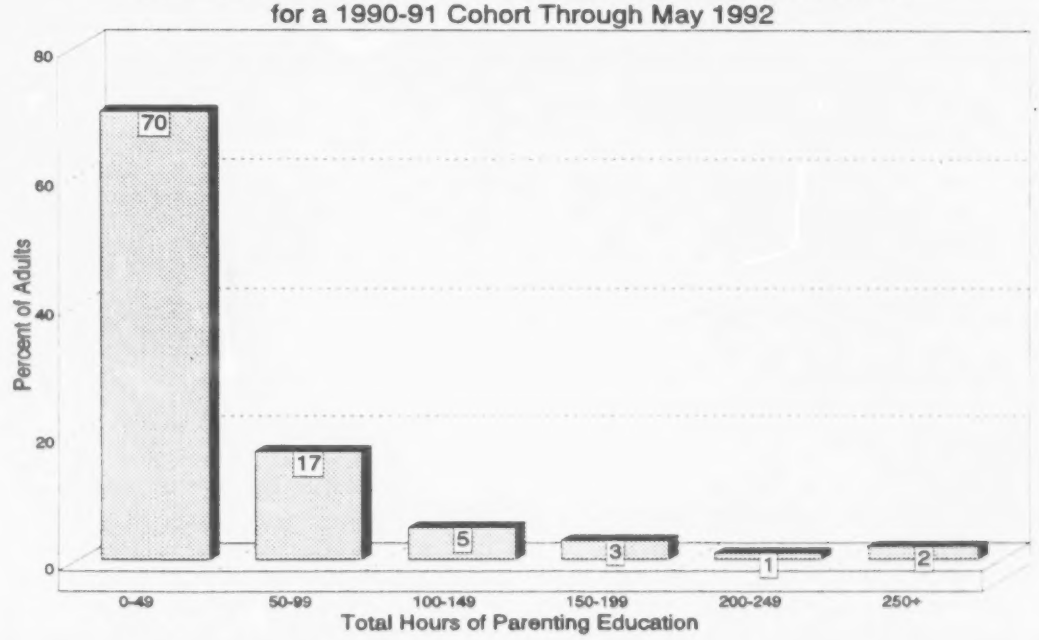


Exhibit reads: More than two thirds of the adults entering in 1990-91 participated in parenting education less than 50 hours.

Exhibit 6.7d: Distribution of Total Hours of Early Childhood Education for a 1990-91 Cohort Through May 1992

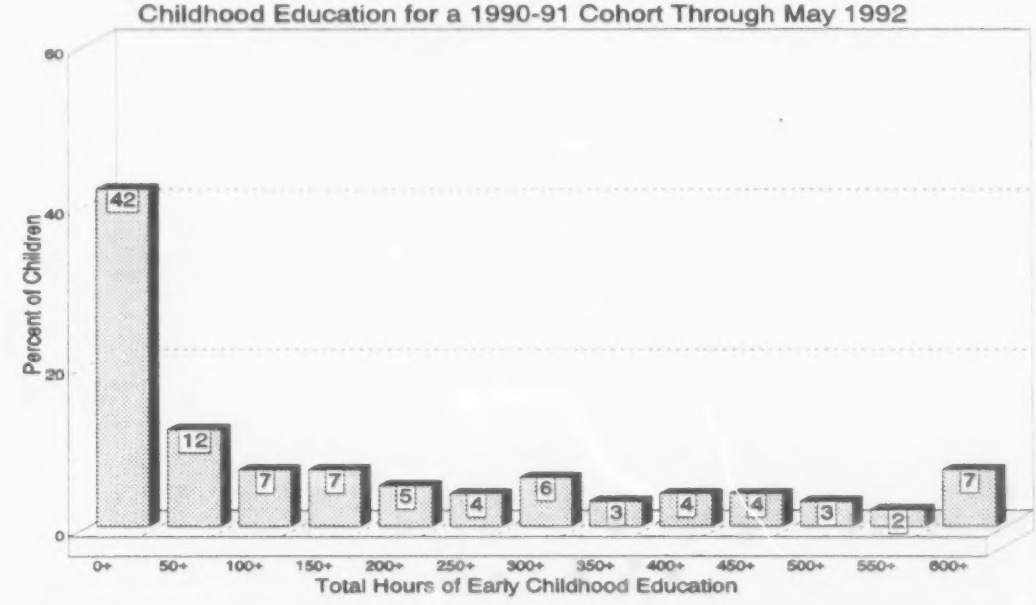


Exhibit reads: More than two-thirds of the children entering in 1990-91 participated in early childhood education less than 50 hours.

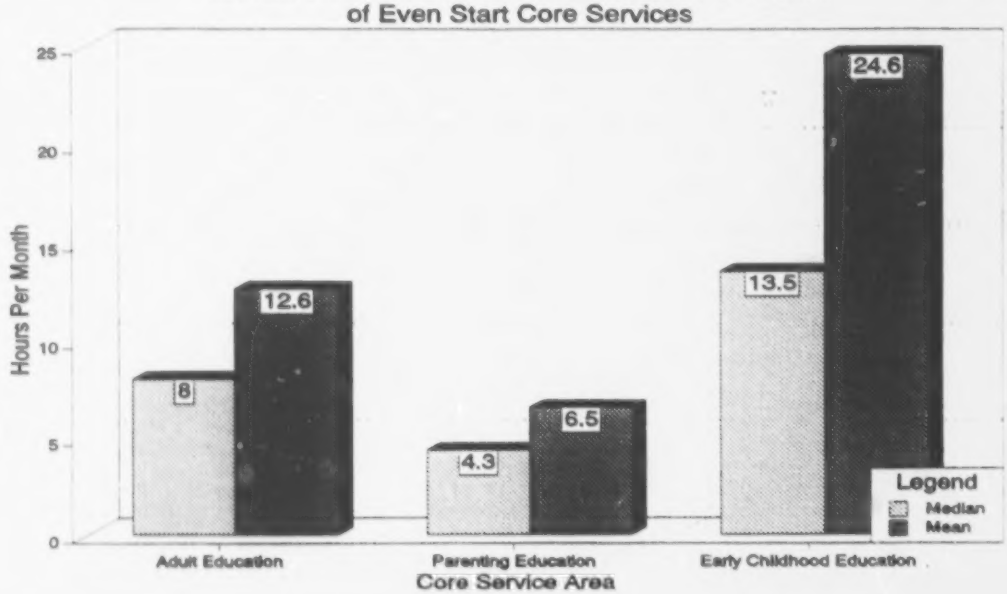
As was the case for total hours of core services, there is great project-to-project variation in the average monthly hours of each core service. Exhibits 6.8b, 6.8c, and 6.8d show project-level distributions of the average hours per month of service for adult education, parenting education, and early childhood education. Most projects provide an average of fewer than 15 hours per month of adult education, with small numbers of projects providing much higher amounts (Exhibit 6.8b). The same pattern is seen for parenting education--a large group of projects provide an average of nine or fewer hours of parenting education per month (Exhibit 6.8c). There seems to be even greater variation in the amount of early childhood education services received. The distribution of average amount of service received (Exhibit 6.8d) is fairly flat, except that a relatively large number of projects provide an average of more than 45 hours of early childhood education per month.

The amount of early childhood education service is related to the age of the child being served (Exhibit 6.9). The typical Even Start child who is less than one year of age received 4 hours per month of early childhood education (mean of 9 hours). This amount increases to 5 hours per month (mean of 10) for one-year-olds, 9 hours per month (mean of 16) for two-year-olds, 14 hours (mean of 23) for three-year-olds, and 22 hours (mean of 32) for four-year-olds. The pattern breaks for five-year-old children, who receive fewer hours of early childhood education services through Even Start (15 hours per month, mean of 25) because they are entering the public schools and this evaluation does not count hours received in kindergarten or primary grades as attributable to Even Start services.

An important question is how this amount of early childhood education service compares with the amount received by children participating in Head Start. On average, four-year-old Head Start children seem to receive about 50 percent more hours of early childhood education per month than their same-age Even Start counterparts. To understand why this is so, it is important to realize that the Even Start averages reported above represent the amount of service actually received by participating children, not the amount planned or the amount offered. It also should be understood that Even Start does not prescribe a fixed amount of services to be delivered to each family. Some projects are highin nature, delivering large amounts of services to relatively small numbers of Head Start programs are more uniform in nature than Even Start projects. Even Start families, while others are low-intensity in nature, delivering lesser amounts of services to larger numbers of families.

Head Start programs are more uniform in nature than Even Start projects. Even Start projects often serve children at a wide age range and may serve children at any one age through collaboration with several different preschool programs. In contrast, Head Start projects typically serve four-year-old children for a single vear, using a five-day program for two and one-half or three hours a day--a total of 12 to 15 hours per week, or 48 to 60 hours per month. However, this is the amount of service that is offered, not the amount actually received. Layzer and her colleagues (1993) provide data which show that Head Start children have an average 79 percent attendance rate. Making this correction lowers the monthly number of hours of early childhood education received by Head Start children to about 38 to 48 hours per month. This Head Start mean is about 50 percent higher than the Even Start mean of 32 hours per month for four-year-old children.

Exhibit 6.8a: Median and Mean Hours Per Month of Even Start Core Services



Exhibits reads: The typical adult participated in adult education services for 8.0 hours per month.

Exhibit 6.8b: Project Level Distribution of Average Hours Per Month of Instruction for Adult Education

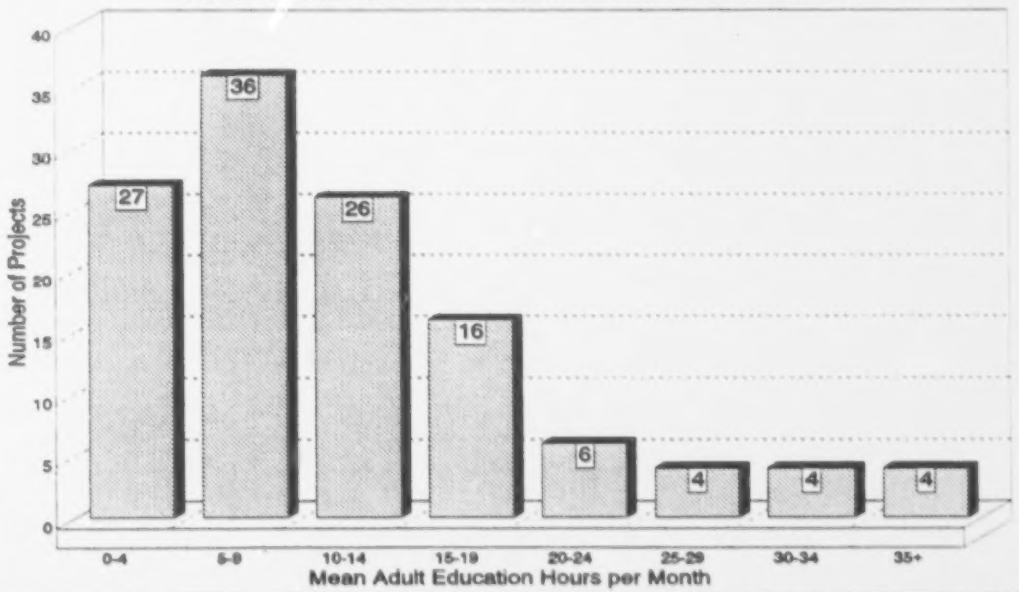


Exhibit reads: Adults participated an average of four hours or less per month of adult education in 27 projects.

Exhibit 6.8c: Project Level Distribution of Average Hours Per Month of Instruction for Parenting Education

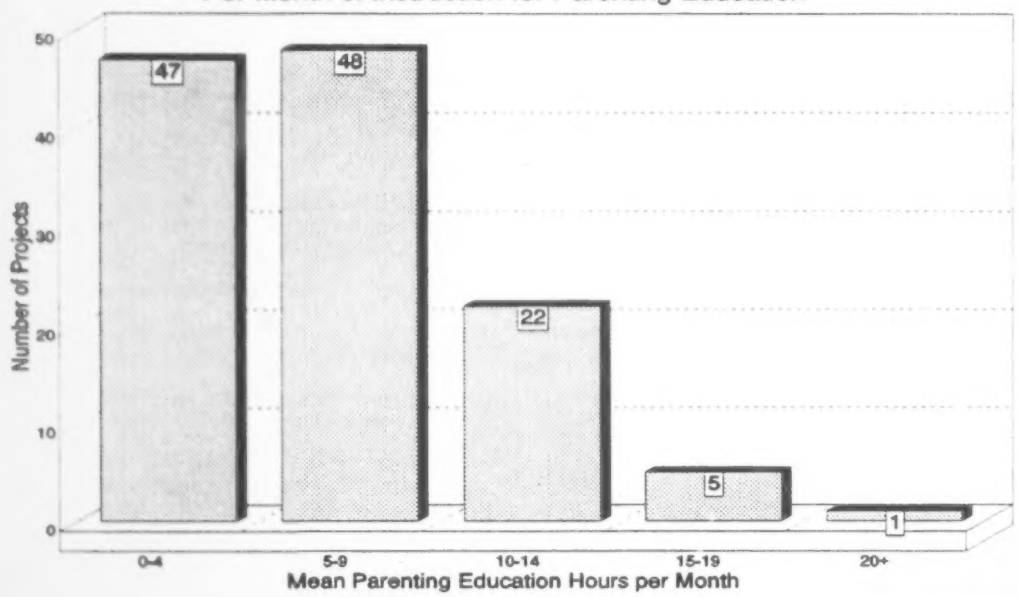


Exhibit reads: Adults in most projects participated in nine or fewer hours per month of parenting education.

Exhibit 6.8d: Project Level Distribution of Average Hours Per Month of Instruction for Early Childhood Education

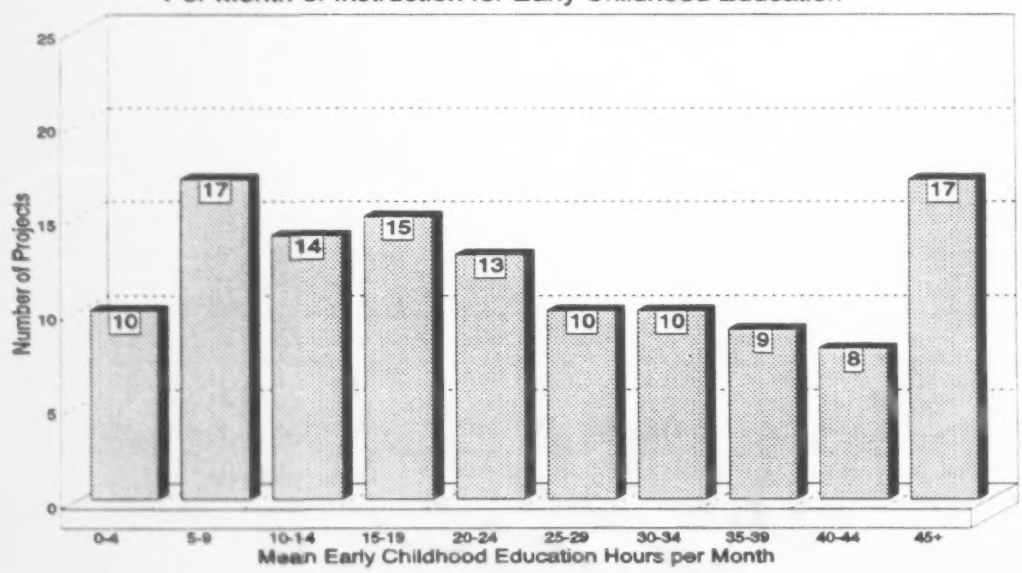


Exhibit reads: Children from 17 projects participated in early childhood education more than 45 hours per month.

Exhibit 6.9: Median and Mean Hours Per Month of Early Childhood Education, by Age of Child

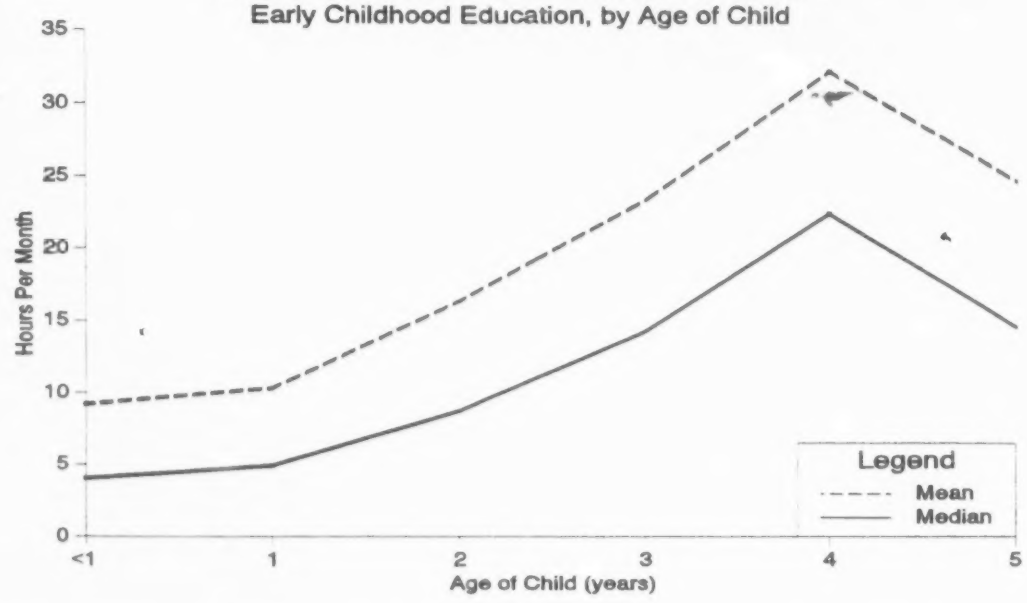


Exhibit reads: The typical four-year old child participated in early childhood education for 22 hours per month.

Service Delivery Modes

Even Start projects are required to provide some core services in a home-based setting and to provide some core services to adults and children together. The extent to which projects use these two "delivery modes" is the subject of this section.

For the purpose of understanding how projects coped with these requirements, each Even Start project was categorized according to the amount of home-based services it provided in each core service area:

Never Home-Based: A project was classified "never home-based" for a given core service area if zero percent of its service hours in that area were provided in a home-based setting.

Rarely Home-Based: A project was classified "rarely home-based" for a given core service area if between one and 33 percent of its service hours in that area were provided in a home-based setting.

Often Home-Based: A project was classified "often home-based" for a given core service area if between 34 and 67 percent of its service hours in that area were provided in a home-based setting.

Mostly Home-Based: A project was classified "mostly home-based" for a given core service area if between 68 and 100 percent of its service hours in that area were provided in a home-based setting.

Exhibit 6.10 shows first that the provision of home-based services does not occur on a large-scale basis. Only 22 percent (17 + 5) of all projects provide more than one-third of their parenting education in a home-based setting, only 18 percent (9.5 + 8.5) provide more than one-third of their adult education in a home-based setting, and only eight percent (6 + 2) provide more than one-third of their early childhood education in a home-based setting. The exhibit further shows that Even Start projects are more likely to provide parenting education in a home-based setting than early childhood education, while adult education is the least likely core service to be provided in the home. Only 16 percent of the projects never provided parenting education in the home, compared with 24 percent of the projects that never provided early childhood education in the home, and 35 percent that never provided adult education in the home.

Projects also were classified with respect to the number of hours that they provided in each core service area to adults and children together: never together (zero percent), rarely together (one to 33 percent), often together (34 to 67 percent), and mostly together (68 to 100 percent) (Exhibit 6.11)[1]. As was the case for the home-based delivery mode, parenting education seems the most likely core service to be offered to parents and children together. All projects provided some parenting education to adults and children together, and 89 percent of the projects provided more than one-third of parenting education using the adult/child together mode. On the other hand, nine percent of the projects never provided early childhood education to adults and children together, and 43 percent never provided adult education to adults and children together.

[1]It is not possible to aggregate the amount of core services that parents received with their children across core service areas because projects were allowed to duplicate hours across the three core services.

Exhibit 6.10: Percent of Projects Using Different Amounts of Home-Based Service, by Core Service Area

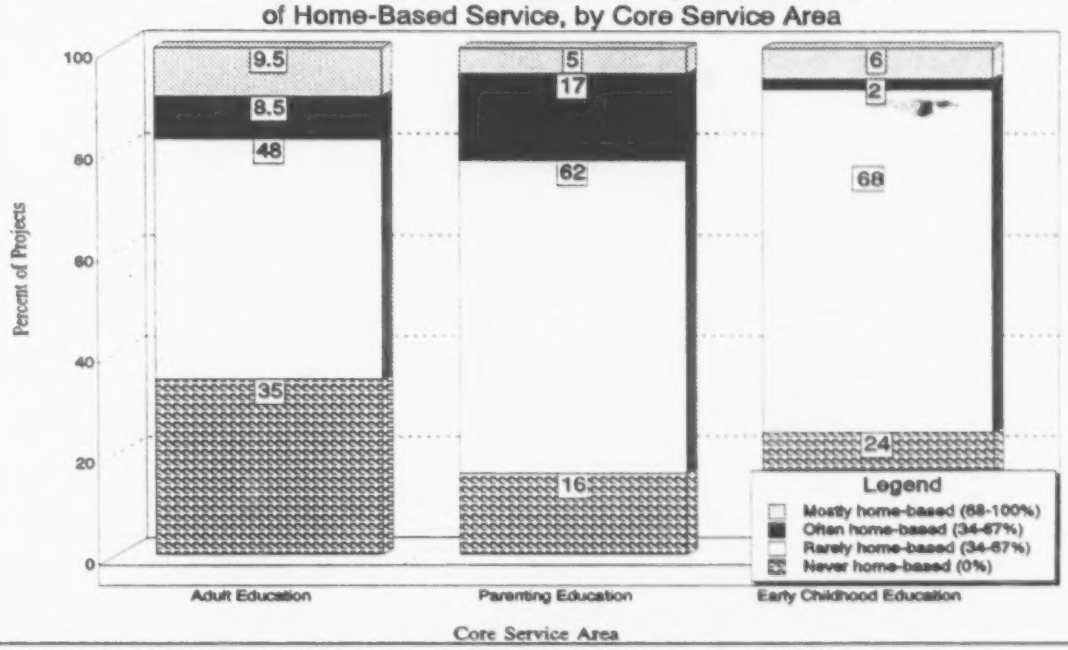


Exhibit reads: 35 percent of the projects never delivered adult education in the home.

Exhibit 6.11: Percent of Projects Using Different Amounts of Adult/Child Together Service, by Core Service Area

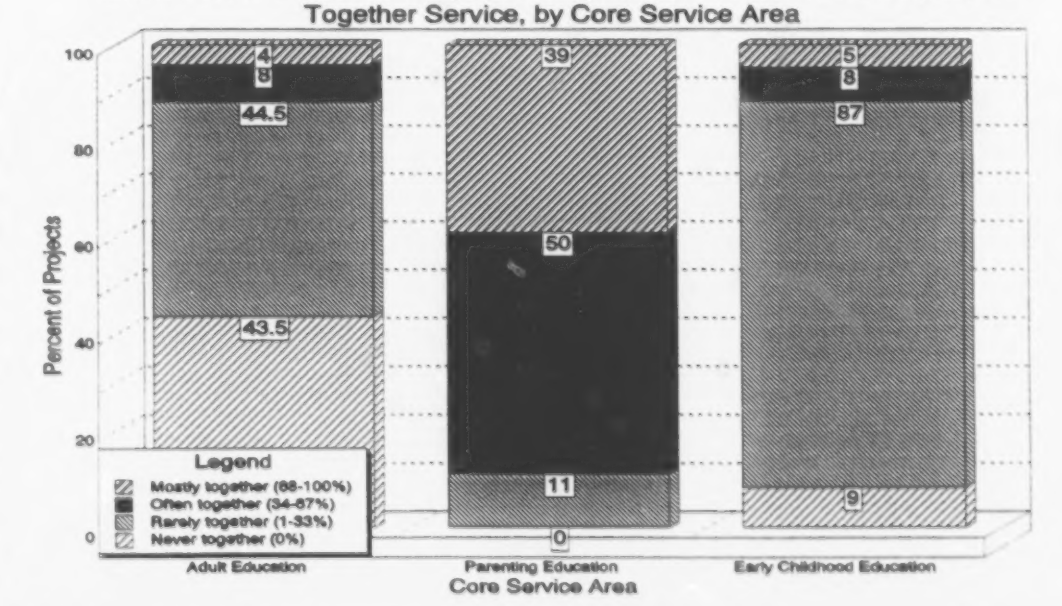


Exhibit reads: 39 percent of the projects provided over two-thirds of parenting education services to adults and children together.

Section Seven

Approach to Assessing Short-Term Effects on Even Start Participants

This section presents our approach to assessing short-term effects of Even Start on children, parents, and families. Subsequent sections present data and describe our conclusions about short-term effects. The findings are important and we believe that they validly represent the effects of Even Start. However, they should be viewed as tentative because additional data are being collected (data from the 1992-93 program year for the NEIS and a second round of follow-up data for In-Depth Study sites) which will be included in the final report from this evaluation.

The analyses presented in this report focus on cross-project findings, although some subgroup analyses have been conducted. Additional analyses of effects for subgroups of projects (e.g., high vs. low intensity projects) will be conducted for the final report.

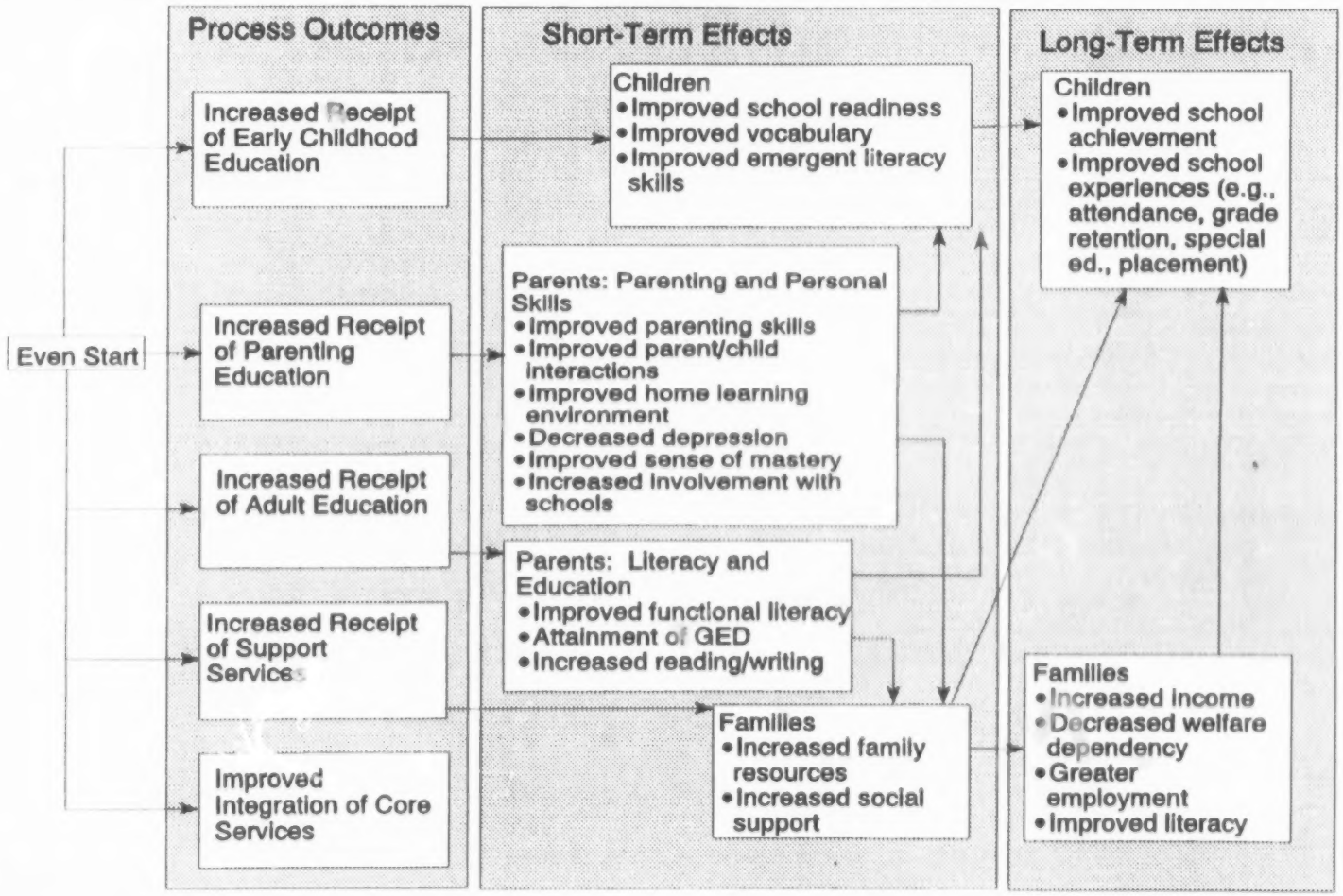
Areas of Effectiveness

The conceptual model shown earlier in this report identifies the following major areas in which Even Start hopes to produce effects: (1) effects on children, (2) effects on the literacy levels of parents, (3) effects on parenting and personal skills, and (4) effects on families. Exhibit 7.1 expands on the types of effects expected from Even Start participation and on the hypothesized relationships among types of effects. As has been discussed throughout this report, Even Start provides three core services (early childhood education, adult education, parenting education) and a set of support services. Increased service receipt is expected to lead to a series of short-term effects on children, parents, and families. Longer-term effects are hypothesized to result from continued program participation and from interactions among the short-term effects. This evaluation has focused on measuring the receipt of services for program participants (process outcomes) as well as short-term effects on children, parents and families. The evaluation has not been designed to assess longer-term effects--that will need to be the topic of a future study.

Process Outcomes

Implementation of an Even Start project should lead to an increase in the amount of services received in each core service area. Appropriate support services also should be

Exhibit 7.1
Hypothesized Sequence of Even Start Effects



provided. While information on the types and quantities of services provided to Even Start participants was presented earlier in this report, a key issue for attributing any observed pretest-posttest gains to Even Start as opposed to other factors is the extent to which Even Start has been able to achieve its hypothesized process outcomes, i.e., increased receipt of early childhood education on the part of children, and increased participation in adult education and in parenting education on the part of parents. These questions are difficult to answer, but some data on participation rates for children and adults from disadvantaged families in adult education, parenting education, and early childhood education programs are available from this evaluation and from other related studies.

Adult Education

Even Start has greatly increased the participation of parents in adult education programs. Evidence to support this conclusion comes from the NEIS intake interview, where Even Start parents were asked whether they had previously participated in any of several different types of adult education (adult basic education, adult secondary education, GED preparation, or English as a second language). In total, 29 percent indicated that they had taken part in some form of adult education prior to joining Even Start. Similar questions were asked in the In-Depth Study, where 40 percent of the parents responded that they had participated either in adult basic education, GED preparation, or English as a second language programs during the past year. The higher pre-Even Start participation rate for the In-Depth Study group may occur because the In-Depth Study sites overrepresent Hispanics, who are more likely than English-speakers to enroll in English as a second language programs. In any case, data from the NEIS show that in the third year of program operations, 90 percent of Even Start adults participated in adult education.[1]

Parenting Education

Parenting education provided through Even Start was used much more often than in the absence of the program. Parents were asked questions about previous participation in parenting education programs as part of the In-Depth Study but not as part of the NEIS. Eight percent of the parents in the In-Depth Study indicated that they had taken part in a parenting education program. This seems to be a reasonable estimate, since parenting education programs are rare. Data from the NEIS show that in the third year of program operations, 93 percent of Even Start adults participated in parenting education.

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[1]Families had to participate in at least one core service in order to be counted as a program participant. We know that some families were recruited, but never participated; and these were not counted.

Early Childhood Education

We believe that Even Start has increased the percentage of children participating in early childhood education programs. However, determining the extent to which children would participate in early childhood education programs in the absence of Even Start is difficult, because Even Start serves children from birth to age eight, and early childhood education participation rates differ by age. In spite of this problem, Even Start parents were asked about the prior formal educational experiences of their child. Their responses (across children of all ages) were that 64 percent of children in Even Start had no prior formal educational experience, 14 percent had participated in Head Start, 13 percent took part in some other preschool, 12 percent were in kindergarten, and 5 percent were in primary school.

We cannot disaggregate the Even Start data by age of child, and so data from the national longitudinal study of Chapter 1 were used to provide additional information on this issue. According to Puma et al. (1993), 26 percent of Chapter 1 students had participated in Head Start, and 35 percent had participated in some other preschool, a total of 61 percent. It makes sense that these percentages are higher than those reported by Even Start parents, because the Chapter 1 data were reported for first grade children, whose parents were able to reflect on their child's entire preschool experience. On the other hand, Even Start parents' reports of preschool experiences were limited by the age of the child--if a child was three years old at entry to Even Start, that child could not have participated in Head Start. Because of this problem, we feel that the Chapter 1 estimate of preschool participation is a better estimate of the typical early childhood education participation rate for a disadvantaged population than the statistics provided by Even Start parents.

A recent analysis by the U.S. General Accounting Office (1993) relies on Census data and provides estimates of preschool participation for poor and nonpoor three- and four-year-old children. The GAO concluded that 22 percent of three-year-old children and 49 percent of four-year-old children from poor families had participated in preschool. The percentages were higher (33 percent and 57 percent, respectively) for children from nonpoor families.

The NEIS data set tells us that by the third year of program operations, 98 percent of Even Start children participated in early childhood education, and so it is clear that regardless of the basis of comparison, Even Start has increased the use of early childhood education programs.

To summarize, we believe that Even Start has achieved its hoped-for process outcomes. It has substantially increased participation rates in the three core service areas, from somewhere in the 30 to 40 percent range to 90 percent for adult education, from about eight percent to 93 percent for parenting education, and from 40-60 percent to 98 percent for early childhood education.

Short-Term Effects

Successful achievement of process outcomes should lead to short-term effects for children, parents, and families. Assessing short-term effects is an important focus of this evaluation.

Children

Even Start provides early childhood education services in order to have the short-term effects of increasing children's school readiness and literacy-related skills. We expect that short-term effects on children will be influenced by the provision of parenting education to adults in Even Start households. Measures of short-term effects on children include the PreSchool Inventory, the Peabody Picture Vocabulary Test, and the Child's Emergent Literacy Test. We expect to see a positive relationship between short-term gains on the PSI or PPVT and longer-term effects on school achievement.

Parents: Literacy and Education

Even Start provides two sets of services for parents: adult education and parenting education. Short-term effects on parent's literacy and education resulting from these services include improved functional literacy as measured by the Comprehensive Adult Student Assessment System, increased rates of obtaining a GED, and increased use of reading and writing in the home. We expect that there is a positive relationship among some of the short-term parent outcomes, for example, increases in functional literacy should lead to achievement of a GED.

Parents: Parenting and Personal Skills

Services for parents also are hypothesized to lead to a series of effects on parenting and personal skills. Measures in this area include improved personal skills (depression, mastery), an improved home learning environment, increased parental expectations for children, and increased teaching skills on the part of the parent.

Families

Achievement of short-term effects for parents, along with the provision of support services, is hypothesized to result in a series of family-level effects including improved social support networks for the family, an improved ability of the family to access needed resources, and a general increase in literacy skills.

Long-Term Effects

The theory underlying Even Start is that combining services for children with services to adults in a single, unified program will lead to long-term effects that are improved and more lasting than effects from more traditional, and separate, early childhood or adult education programs. Measuring these long-term effects is outside the scope of this evaluation, but follow-up studies ought to be designed to assess this important objective of Even Start.

Children

Many studies have shown that early childhood education programs can produce short-term effects on children's school readiness (Layzer et al., 1990). Studies also have shown that these effects "fade out" over time, so that no differences are observed past the early elementary grades (Lazar et al., 1977), although recent research has disputed the reason for fade out of effects (Barnett, 1993). Even Start hopes to change this pattern by combining increased school readiness skills for children with improved adult parenting and literacy skills, increased levels of community and school involvement, and better family resources. As a package, these short-term effects ought to lead to improved chances for long-term effects for children as measured by "school achievement." Specific measures might include teacher ratings of behaviors, socialization, and achievement; grades; placement in Chapter 1, special education, or remedial programs; grade retention; and many others.

Families

Improvements in adult literacy and parenting skills along with increased family resources and supports are hoped to lead to the longer-term effects on the economic well-being and stability of the family. Measures in this area could include reduced unemployment, increased earnings, and decreased welfare dependency, as well as continued higher levels of literacy for the family.

Approach to Assessing Program Effects

The analyses presented in this section rely both on the National Evaluation Information System (NEIS) which provides longitudinal and cross-sectional data on all Even Start projects and participants, and on the In-Depth Study which provides longitudinal data on selected projects which agreed to implement randomized experimental evaluations to assess the effects of Even Start. The design of each of these parts of the evaluation is presented earlier in this report and in preceding reports from this evaluation (St.Pierre et al, 1991, 1993).

As has been discussed above, Even Start hopes to have positive effects in several

different areas. Before going further, we need a definition of what is meant by "the effect of Even Start." *The effect of Even Start on a participating family is the difference between an observation taken after participation in the program and what would have been observed if the family had not been in the program.* Since it is impossible to know how a participating family would have performed if they had not been part of the program, we must estimate what that performance would have been. Such an estimate is called a "no treatment expectation" and is often generated by measuring control group families that are statistically equivalent to the program families. Post-program observations made on program families are then compared to the no-treatment expectation to yield a measure of program effect.

The challenge in creating a no-treatment expectation is to ensure that the program group and the control group are, indeed, equivalent. To this end, the best control group is one that has been constructed by randomly assigning potential participants to Even Start or to a control group. This method ensures that the characteristics of participating families, on average, will not differ systematically from the characteristics of non-participants. Random assignment of families to Even Start or to a control group was used in designing the In-Depth Study. Five projects implemented a randomized design with the assignment of families conducted centrally by Abt staff. Details about the random assignment process were included in the Second Interim Report from this evaluation. Pretest-posttest data from these five sites are included in the analyses presented in subsequent sections of this report.

The demographic characteristics at pretest of the families in the random assignment sites of In-Depth Study are presented in Exhibit 7.2. While the Even Start and control families are quite similar (none of the differences shown in Exhibit 7.2 are statistically significant), this sample of families differs somewhat from Even Start families described on the NEIS. For example, 22 percent of the NEIS sample of adults speak Spanish as their primary language, compared with 36 percent of the Even Start families and 45 percent of the control families in the In-Depth Study. Similarly, about 18 percent of the families in the NEIS are Hispanic, compared with nearly half of the families in the In-Depth Study.

The sample size in each of the five In-Depth Study projects is small (there are a total of about 100 families in the Even Start group and 100 families in the control group), so data were pooled across projects for analytic purposes. Even Start children and their parents were pretested in the fall of 1991, upon entry to the program. Control group children and their parents were pretested during the same time frame. Posttesting for both groups was done during the summer of 1992.[2] Pretests and posttests were conducted by independent data collectors hired and trained by Abt Associates.

Effects estimates for the In-Depth Study were based on a regression model where the posttest value of a given outcome measure was used as the dependent variable; independent variables included the pretest value of that measure as well as group assignment (Even Start or control). The results displayed in the following sections show

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[2]A follow-up posttest is being conducted during May-June of 1993. Data from this second posttest will be analyzed for the final report from this evaluation.

Exhibit 7.2

Demographic Characteristics at Pretest of Families in Random Assignment Sites of the In-Depth Study

Demographic Characteristics	Percentage of Families	
	Even Start (n=101)	Control (n=98)
Family Configuration:		
Single parent	40%	39%
Couple	41%	46%
Extended family	17%	13%
Other	1%	1%
Education Level:		
Parent has high school diploma, GED, or higher	27%	19%
Spouse/partner has high school diploma, GED, or higher	47%	39%
Employment Status:		
Parent not working	83%	82%
Parent working part-time	5%	7%
Parent working full-time	12%	11%
Spouse/partner not working	27%	14%
Spouse/partner working part-time	6%	7%
Spouse/partner working full-time	67%	79%
Primary Source of Income:		
Government assistance	53%	44%
Job wages	42%	51%
Alimony and child support	2%	1%
Other	3%	4%
Annual Income:		
Less than $5,000	52%	44%
5,000 - 10,000	21%	30%
10,000 - 15,000	13%	9%
15,000 - 20,000	7%	10%
20,000 - 25,000	3%	6%
More than 25,000	4%	1%

Exhibit 7.2 (continued)		
Demographic Characteristics	**Percentage of Families**	
	Even Start (n=101)	**Control (n=98)**
Primary Language of Parents:		
English	63%	54%
Spanish	36%	45%
Other	0%	1%
Primary Language of Child:		
English	68%	59%
Spanish	32%	40%
Other	0%	1%
Race/Ethnicity of Parent:		
White	14%	15%
African-American	24%	19%
Hispanic	50%	49%
Other	3%	0%
Age of Parent:		
Less than 20 years old	3%	2%
20 - 29 years old	68%	76%
30 years old or older	29%	22%
Homelessness:		
Currently homeless	2%	1%
Homeless within last year	4%	10%

raw pretest and posttest means and standard deviations, as well as raw pre-post gains for Even Start and the control group. The "program effect" is the gain for the Even Start group, over and above the gain for the control group. The "effect size" is the program effect converted to standard deviation units, by dividing by the pretest standard deviation of the control group.

In addition to the In-Depth Study, the NEIS provides great amounts of pretest-posttest data on about 120 Even Start projects, and these data are used to provide information about pretest-posttest gains for Even Start participants. The approach used here is measure-specific. For some measures we have developed our own Even Start "norms," for others we use external standards of comparison such as the norms that publishers provide for standardized tests, the scores attained by similar populations in other recently completed evaluations, or the scores or program participants prior to receiving program services. While these approaches are second-best to a randomized experiment, the combination of the two provides for a strong assessment of the short-term effects of Even Start.

The challenge for this report lies in reconciling findings from the two different data sets. This is easy when the two data sets to the same conclusion, but is more difficult when one data set points to a positive effect while the other data set shows that Even Start makes no difference. Additional data will be available for the final report from this study, so the conclusions drawn here ought to be regarded as tentative.

A listing of the outcome measures used in the In-Depth Study portion of the evaluation and in the NEIS is contained in Exhibit 7.3.

Exhibit 7.3

Outcome Measures Used in In-Depth Study and NEIS

Outcome Measure	IDS	NEIS
Children		
PreSchool Inventory	x	x
Peabody Picture Vocabulary Test	x	x
Child's Emergent Literacy Test	x	--
Parents: Literacy levels		
Comprehensive Adult Student Assess. System	x	x
Attainment of a GED	x	x
Reading/writing activities at home	x	x
Parents: Parenting and personal skills		
Personal skills		
Depression scale	x	--
Mastery scale	x	--
Home learning environment		
Talking with child	x	x
Play materials in home	x	x
Number of children's books in home	x	x
Reading to child	x	x
Reading materials in home	x	x
Learning activities at home	x	x
Teaching child	x	x
Family rules	x	--
Activities with child	x	--
Parent as a Teacher	x	x
Parent/child reading task	x	--
Parents' expectations and involvement		
Expectations for school success	x	x
Expectations for high school grad.	x	x
Families		
Social support scale	x	--
Family resources		
Source of income	x	--
Income level	x	--
Adequacy of resources	x	--
Employment status	x	x

Section Eight

Effects on Children

In this evaluation, short-term effects of Even Start on children are assessed using the following measures: the PreSchool Inventory, which measures a range of school readiness skills; the Peabody Picture Vocabulary Test, which measures receptive vocabulary; and the Child's Emergent Literacy Test, which assesses the pre-literacy skills of young children.

The PreSchool Inventory

The PreSchool Inventory (PSI) was originally developed by Bettye Caldwell as a 64-item inventory of basic concepts important for preschool children to know before entering school (CTB/McGraw-Hill, 1970). A 32-item version has been adapted (Abt Associates Inc., 1991) for use in large-scale evaluations.

Description of the Measure

The PSI is an individually-administered measure that assesses a range of school readiness skills, e.g., identifying shapes and colors and understanding numerical concepts. The PSI requires 15 minutes to administer and is appropriate for children between the ages of three and five. English and Spanish translations of the test are combined on a single form. Scoring is straightforward; each item correct counts as one point, and a total score is computed. The PSI does not contain any subscales.

The 32-item version has been used in numerous large-scale evaluation studies including the observation study of Chapter 1 preschool programs (Seppanen et al., 1993), the evaluation of Project Giant Step (Layzer, Goodson and Layzer, 1990), the National Day Care Study (Bache, 1980), the Head Start Planned Variation study (Walker, Bane and Bryk 1973), the National Home Start Evaluation (High/Scope Educational Research Foundation, 1973, 1975), and the Child and Family Resource Program evaluation (Travers et al., 1982). It also is being considered for use in the current evaluation of the Comprehensive Child Development Program (St.Pierre et al., 1990).

The PSI was developed to be sensitive to instruction, and has shown positive effects of preschool programs in previous research, but it does not have national norms. The psychometric characteristics of the test have been investigated extensively. The reliability of the measure has been assessed in each of the studies cited above, with Cronbach's

alpha ranging from .77 to .87. Test-retest reliability ranged from .67 to .77. In the current evaluation, the reliability of the PSI as assessed via Cronbach's alpha is .86.

For both the NEIS and the In-Depth Study, the PSI was administered to children between the ages of three and five who were participating in early childhood education. Administration rules for the NEIS were that the test was given at the beginning of the school year (or at any other time of entry to Even Start) and again in the spring (or at the time of exit from Even Start). Project staff were asked to administer the PSI as a pretest within 30 days of the start of services and not to administer the PSI as a posttest unless there were at least three months between pretest and posttest. Staff reported the PSI raw score, the test date, and other information about the testing situation. Since no score conversions are required, there are few opportunities for errors in reporting. About one in five pretest scores were lost because the child was tested at an inappropriate age or there was incomplete data on birthdate or test date which prevented calculation of age at the time of testing. Posttest scores were available for only about half of the children who were pretested.

For the In-Depth Study, the PSI was administered by trained data collectors. A pretest was given when families entered Even Start in the fall of 1991. Control group families were pretested at the same time as Even Start families. Both groups were posttested in the summer of 1992.

Pretest Levels on the PSI

Data from the NEIS were analyzed in order to describe PSI pretest scores for the Even Start population. Exhibit 8.1 presents the average PSI pretest scores attained by children entering Even Start, in total and broken down by several variables. Across 1,477 pretest scores from children who entered Even Start in the fall of 1990 or fall of 1991, the mean PSI pretest score was 13.0 points, with a standard deviation of 6.8 points. The PSI measures school readiness skills, and so we expect scores to increase as children age. This indeed was the case. Pretest means are 10.1 points for three-year olds, 14.8 points for four-year olds, and 17.4 points for five-year olds. Pretest means are also presented for different types of family structure, for different levels of family income, for the language used in testing, and for the location of testing. Subgroup differences are generally in the expected direction, e.g., children with prior preschool experience score higher than children with no preschool experience.

Developing Age Norms for the PSI

One way to measure the effect of Even Start on the PSI is to compare pretest-posttest changes observed for children in families assigned to Even Start with changes observed for children in families assigned to the control group in the In-Depth Study projects. Because families were randomly assigned to the two groups, this approach will yield an unbiased estimate of the effect of Even Start in these sites. But, the In-Depth Study

Exhibit 8.1

PSI Pretest Scores
(Raw Scores from the NEIS Data Set)

Group	N	Mean	SD
Age at pretest			
3-0 to 3-11	611	10.1	5.8
4-0 to 4-11	819	14.8	6.7
5-0 to 5-11	47	17.4	7.1
6-0 to 6-11	--	--	--
7-0 to 7-11	--	--	--
Gender			
Male	696	12.5	6.9
Female	719	13.5	6.7
Prior preschool experience			
No	1,042	12.2	6.6
Yes	333	14.8	7.0
Highest grade attained by target parent			
Grade 0-4	29	12.0	8.6
Grade 5-8	243	12.0	6.9
Grade 9-12	847	13.0	6.7
Diploma or GED	293	14.0	6.7
Language test administered in			
English	1,202	13.5	6.7
Spanish	166	10.1	7.1
Total	**1,477**	**13.0**	**6.8**

Exhibit reads: The average PSI pretest score for males was 12.5 points.

relies on data from only five sites, with a total of about 100 families in Even Start and 100 control families.

We would like to use data from the NEIS to augment the conclusions that can be drawn from the In-Depth Study. The problem is that the NEIS only collects data from Even Start families--no control families are measured. If the PSI had national norms, we could estimate the amount of growth to expect on the PSI by comparing the pretest-posttest growth of Even Start children with the growth of children nationally. But, no such norms exist for the PSI, and even if they did, they probably would not be based on a sample of children that adequately represents the Even Start population.

Fortunately, the pretest data collected for this evaluation afforded us the opportunity to develop age norms for the PSI based on data collected on Even Start children. By definition, the resulting norms are directly applicable to the Even Start population. In brief, the methodology called for administering the PSI to three to five year olds as they entered Even Start and using these pretest scores to generate a growth curve which represents the no-treatment expectation for the Even Start population. Additional information on this approach is contained in St.Pierre et al., (1993) and Murray et al., (1993). To the extent that children entering Even Start have had prior preschool experience, their pretest scores reflect learning obtained through that experience.

The results of the norms development effort are summarized in Exhibit 8.2 which shows that children in the Even Start population are expected to gain an average of .42 items per month on the PSI, solely on the basis of normal development. Children who are administered the PSI in Spanish are expected to gain an average of .30 items per month. Gains are expressed in terms of number of items per month because children participate in Even Start for different lengths of time (different numbers of months). We use these no-treatment expectations in subsequent analyses to determine whether participation in Even Start produced pretest-posttest changes which are greater than what would be expected on the basis of normal development.

Effects on the PSI

Data from two evaluation sources, the random-assignment In-Depth Study evaluation and the national survey of all Even Start programs (the NEIS), are consistent in indicating that Even Start has a statistically significant, positive effect on the PSI--an effect commensurate in size with effects on the PSI that have been observed in other evaluations of high-quality preschool programs.

Effects as Measured by the In-Depth Study. Data from the In-Depth Study show that children in families assigned to participate in Even Start gained an average of 4.5 points from pretest to posttest (about a nine-month period) compared to an average gain of 3.1 points for children in families assigned to the control group (Exhibit 8.3). Both the Even Start and the control group gained a statistically significant amount from pretest to posttest, however the gain for the Even Start children was significant, over and above the gain for the control children. The size of the program effect is .23 standard deviations,

Exhibit 8.2

Developmental Growth on the PSI in the Absence of Even Start Instruction (Based on the NEIS Data Set)

Group	Number of Children	Expected Growth in Items/Month	95% Confidence Band
No prior preschool experience	892	.42	.36-.48
Prior preschool experience	292	.41	.30-.53
Administered in Spanish	208	.30	.16-.43

Exhibit reads: Without preschool experience, including Even Start, a child would be expected to gain .42 raw score points per month.

Note: Developmental growth is estimated from cross-sectional pretest scores. It is defined as the slope of the regression line predicting pretest scores from age in months. The 95 percent confidence band is obtained by adding and subtracting 1.96 standard errors from the expected growth.

Exhibit 8.3

PreSchool Inventory: Effects from the In-Depth Study

	Even Start (n=84)		Control (n=75)	
	Mean	S.D.	Mean	S.D.
Pretest	11.4	5.9	11.7	6.1
Posttest	15.9	6.6	14.8	6.8
Gain	4.5*	--	3.1*	--
Program Effect (Effect Size)	1.4 points* (.23 s.d.)			

* $p < .05$

Exhibit reads: Even Start children in the In-Depth Study averaged 11.4 points on the PSI pretest.

a relatively small, but real, effect as judged by the standards of other social program evaluations.

Effects as Measured by the NEIS. Data from the NEIS were analyzed differently than data from the In-Depth Study. The results show that, across all Even Start projects, children gained at the rate of .92 PSI items per month, compared with a developmental expectation of .42 items per month. Exhibit 8.4 illustrates how the PSI growth trajectories of children with and without Even Start diverge over time. The trajectory for children prior to participation in Even Start shows growth at a rate of .42 items per month--the rate expected on the basis of normal development. The trajectory for children after participating in Even Start shows growth at an accelerated rate of .92 items per month.

The gain of .92 items per month can be expressed as the combination of .42 items per month due to normal development plus .50 items per month due to Even Start. We can therefore say that participation in Even Start more than doubles the expected rate of learning on the PSI. This is a substantial effect, one which is equivalent to the largest child-level gains observed on the PSI in other studies of preschool programs.

Another way to interpret the data is to express the size of the effect in terms of standard deviation units. Dividing the effect of .50 items per month by the PSI's standard deviation of 6.2 shows that participation in Even Start has an effect size of .08 standard deviation units per month. Findings presented earlier in this report showed that, on average, children participate in Even Start for about six months. Thus, the NEIS data show that Even Start has an effect of .48 standard deviation units for the average Even Start child. This is a "medium-sized" effect by general standards of social science evaluations.

Exhibit 8.5 provides a comparison of the effect observed on the PSI in the Even Start evaluation with effects on the PSI as seen in four other large-scale evaluations of early childhood education programs conducted in the 1970s and 1980s. In the other evaluations, the developmental gain (no-treatment expectation) on the PSI ranged from .4 to .5 items per month, and the gain including the effect of the program under study ranged from .6 to 1.0 items per month. Children participating in Even Start fit the developmental pattern observed in the other studies exactly, gaining .42 items per month prior to entering Even Start. Once in Even Start, they gained at an improved rate of .92 items per month. This accelerated rate of learning on the PSI means that as Even Start children enter the public schools they are more likely to know basic concepts and precursors of kindergarten skills than they would have been in the absence of the program.

Information on how different subsets of Even Start children performed on the PSI is presented in Exhibit 8.6. The mean monthly gains are remarkably stable across subgroups. That is, childrens' monthly gains on the PSI are roughly equivalent, regardless of age of child, gender, ethnic background, prior preschool experience, education level of parent, language in which the test was administered, and location of the pretest. This argues that Even Start does equally well at teaching school readiness skills to quite varied

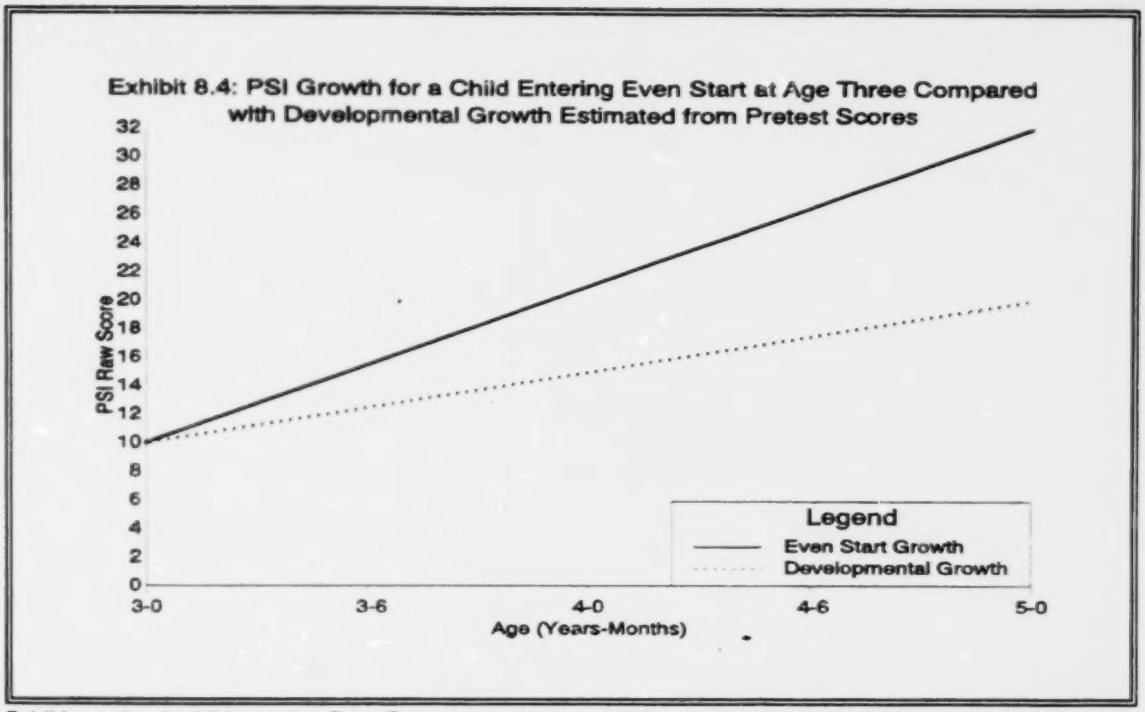


Exhibit reads: A child entering Even Start at age three would be expected to gain .92 items per month on the PSI compared with the .42 items per month growth estimated from cross-sectional data from children without prior preschool experience.

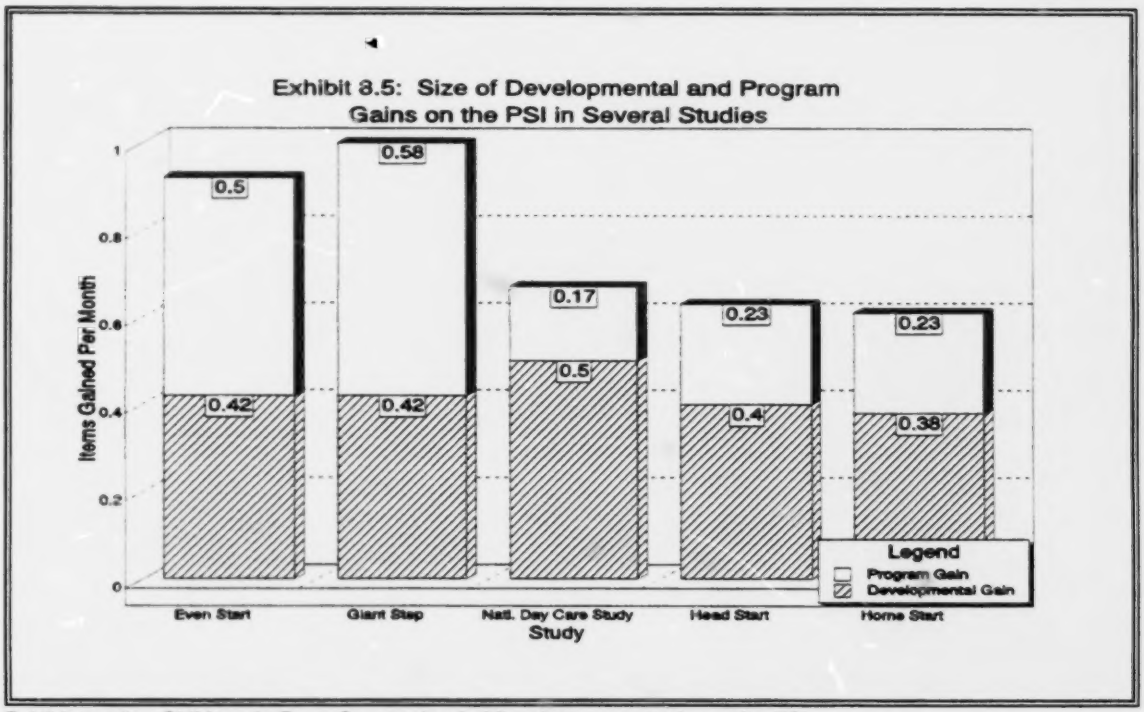


Exhibit reads: Children in Even Start gained .92 points per month on the PSI.

Exhibit 8.6

Average Monthly Gain in Raw Score Points on the PSI for Selected Variables (NEIS Data Set)

Group	Monthly Gain		
	N	Mean	SD
Age at pretest			
3-0 to 3-11	566	.86	.85
4-0 to 4-11	456	.99	.83
Gender			
Male	490	.91	.91
Female	481	.92	.78
Ethnic background			
Asian	10	1.23	.72
African-American	292	.92	.94
Hispanic	224	.90	.89
Native American	30	1.08	.94
White	438	.92	.76
Prior preschool experience			
No	761	.93	.85
Yes	163	.88	.86
Highest grade attained by target parent			
Grade 0-4	22	1.25	.77
Grade 5-8	189	.90	.90
Grade 9-12	571	.91	.86
Diploma or GED	184	.95	.71
Language with which pretest was administered			
English	855	.91	.83
Spanish	126	.90	.96
Location of pretest			
Center	556	.97	.84
Home	326	.88	.85
Other	114	.77	.83
Total	**1,022**	**.92**	**.85**

Exhibit reads: Children tested twice with the PSI gained an average of .92 raw score points per month. Since developmental growth accounts for about .42 raw score points per month, Even Start early childhood education more than doubles the growth rate of readiness skills for participating children.

groups of children, and that the overall estimate of .92 items per month is a robust indicator. Where it appears that large differences exist between subgroups, the sample size in one of the subgroups tends to be small, casting doubt on the reliability of the estimate.

The Peabody Picture Vocabulary Test

The Peabody Picture Vocabulary Test-Revised (PPVT) measures receptive (hearing) vocabulary, and gives a quick estimate of verbal or literacy-related skills.

Description of the Measure

The PPVT is an individually administered test which requires 15 to 20 minutes per child and is appropriate for children between the ages of two and 18 years. In this evaluation, the PPVT is used with children three years of age and older. The test consists of 175 vocabulary items of increasing difficulty. The tester reads a word and the child selects one of four pictures that best describes its meaning. A total score is calculated based on the number of words correctly identified; no subscales exist. Whereas the PSI measures school readiness, the PPVT assesses verbal/language skills.

The PPVT was standardized in 1979 on a national sample based on the 1970 U.S. Census. The standardization sample included 4,200 individuals from a variety of demographic backgrounds who were between 30 months and 18 years of age (Dunn and Dunn, 1981). In addition, the PPVT is available and normed for Spanish-speaking individuals (Dunn et al., 1986). The Spanish version (the Test de Vocabulario en Imagenes Peabody, or TVIP) was standardized in 1981-82 on over 2,000 children in Mexico and Puerto Rico. The PPVT-R and PPVT have been used successfully in a number of large-scale research studies and surveys including the National Longitudinal Study of Youth (Baker and Mott, 1989), the Infant Health and Development Program (IHDP, 1990), and the evaluation of the Comprehensive Child Development Program (St.Pierre et al., 1990).

The PPVT-R manual reports split-half reliabilities of .80 for Form L and .81 for Form M. TVIP reliabilities are higher (.93). The immediate test-retest reliability is .82, while the delayed test-retest reliability is .78. A great deal of validity information is available for the PPVT-R and the PPVT. Issues of content validity, construct validity, and criterion-related validity all are addressed in the PPVT-R manual. Conclusions to be drawn from these analyses are that the PPVT correlates most highly with other measures of vocabulary (average correlation of .71), it correlates moderately well with tests of scholastic aptitude (about .5 - .6), and it correlates reasonably well with measures of school achievement (.3 - .7) but does less well as a predictive measure of school success.

For this evaluation, PPVT data are expressed in standard score units, rather than raw scores or percentile ranks. Standard scores express, in standard deviation units, the

extent to which a child's score exceeds, or falls below, the mean score of children of the same age upon whom the test was standardized. PPVT standard scores have a mean of 100 and standard deviation of 15. So, for example, three-year-old children in the PPVT norms group have an average raw score of 25, which equates to a standard score of 100; four-year-olds have an average score of 42, which also is assigned a standard score of 100; five-year-old children have an average score of 57, which equates to a standard score of 100; and so on.

For the NEIS, project staff were asked to administer Form L of the PPVT-R within 30 days of entry to Even Start and again in the spring (or when the family exited the program). Alternate forms were to be used at each testing (Form L followed by Form M). Children were tested with the TVIP if, in the judgement of the program staff, this was a more appropriate test. Screening of completed tests revealed a high rate of error on the part of project staff in converting raw scores to standard scores, so all conversions were verified. Project staff appear to have had difficulty using the conversion tables accurately.

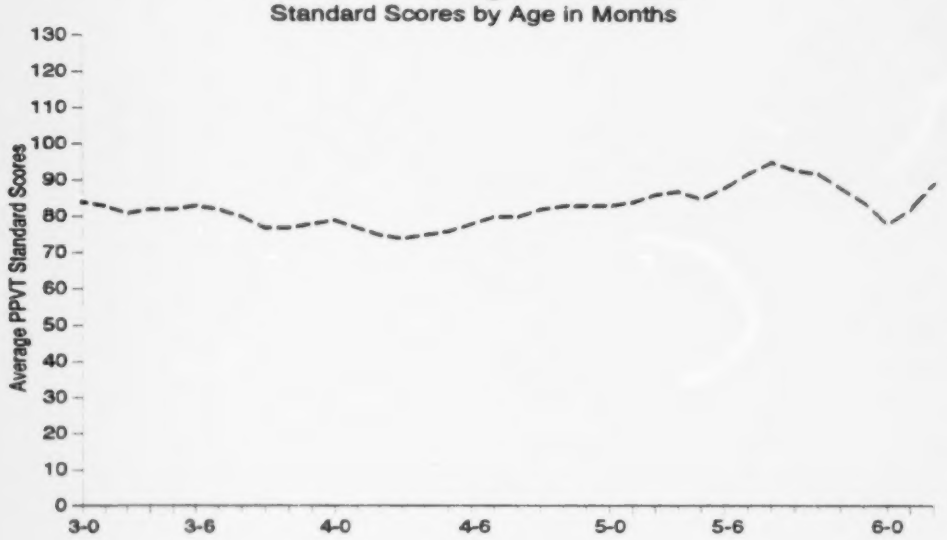
For the In-Depth Study, PPVT administration was done by trained data collectors following the same rules that were described for the PSI.

Norms for the PPVT and TVIP

The PPVT and TVIP each have national norms. The norms are used to translate raw scores to standard scores, which can then be translated into percentile ranks. Analyses presented in this report are done on standard scores, and because of the way that standard scores are constructed, our expectation is that PPVT standard scores should not change in the absence of a "treatment." There is no "maturation effect" for the PPVT as there was for the PSI, because the standard scores are age-linked. That is, a three-year-old who scores at the mean for all three-year-olds will have the same standard score as a five year old who scores at the mean for all five-year-olds. Hence, there is no particular reason that a child's percentile ranking relative to the PPVT (or TVIP) norms group should change over time unless that child is receiving some special services. An increase in standard scores during the time that a child is participating in Even Start is, therefore, taken as an indication that Even Start is helping to increase children's receptive vocabulary.

To test our hypothesis that there is no relationship between age and PPVT standard scores we performed an analysis of pretest data from the NEIS, similar to the analysis that was done to derive age norms for the PSI. Exhibit 8.7 is a graph of age at pretest by PPVT standard scores. As expected, pretest standard scores are quite stable across ages. Four year olds seem to score a bit lower than expected, and six year olds score somewhat higher, but the differences are not large. This means that we do not expect to see increases or decreases in PPVT standard scores due to maturation or development.

Exhibit 8.7: Average PPVT Pretest Standard Scores by Age in Months



Effects on the PPVT

Unlike the PSI, results from the In-Depth Study and the NEIS tell different stories for the PPVT. Findings from the In-Depth Study show no significant program effect. On the other hand, results from the NEIS indicate that there may be a positive effect of participating in Even Start. The fact that the In-Depth Study results do not support the NEIS findings makes us wary about reaching firm conclusions at this time about the effect of Even Start on the PPVT. Additional data which may lead to firmer conclusions will be presented in the final report from this evaluation.

Effects as Measured by the In-Depth Study. The small pretest-posttest gains on the PPVT for Even Start and for the control group are not statistically significant, nor is the estimated program effect (Exhibit 8.8).

Effects as Measured by the NEIS. Data from the NEIS lead to a different conclusion than that which was drawn from the In-Depth Study data. Based on the NEIS, we see that Even Start children make significant gains on the PPVT. Exhibits 8.9 and 8.10 present the results of analyses based on NEIS data from all Even Start projects. The exhibits show average pretest-posttest gains on the PPVT and TVIP, expressed in standard score points per month (gains are expressed in points per month because children participate for different numbers of months).

Exhibit 8.8

Peabody Picture Vocabulary Test: Effects from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	S.D.	Mean	S.D.
Pretest	77.8	19.5	77.0	17.1
Posttest	80.7	16.5	77.9	15.8
Gain	2.9	--	0.9	--
Program Effect (Effect Size)	2.0 points (.12 s.d.)			

* $p < .05$

Exhibit reads: Even Start children in the In-Depth Study averaged 77.8 points on the PPVT pretest.

Based on the norms analyses described above, we do not expect to see any change in PPVT standard scores due to maturation. However, we do see that children participating in Even Start gain an average of .83 standard score points a month on the PPVT and 1.28 points per month on the TVIP. Dividing by the PPVT standard deviation yields a per month effect of .05 standard deviation units for the PPVT and .08 standard deviation units for the TVIP. Multiplying by six months, the average length of participation in Even Start, yields an effect size of .30 standard deviations for the PPVT and .48 standard deviation units for the TVIP--medium-sized effects compared to the effects of other social science programs.

Exhibit 8.9 shows monthly gains for several different subgroups of children. For example, children who are four or five years of age gain more than children who are three years old. This fits with data presented earlier in this report which showed that four-year-olds received substantially more early childhood education instruction than three-year-olds. However, the fact that there are large variations in monthly gains across subgroups of children for the PPVT suggests that Even Start may be differentially effective at improving receptive vocabulary for some groups of children. This was not the case on the PSI, where Even Start seemed to affect school readiness equally for all subgroups of children.

One possible explanation for the contrary PPVT findings across the NEIS and the In-Depth Study has to do with the different racial/ethnic distributions in these two parts of the evaluation. The NEIS data set is based on all Even Start projects, in which 42 percent of the children are white, 30 percent are African-American, and 19 percent are Hispanic. On the other hand, the random-assignment In-Depth Study is conducted in five projects which overrepresent Hispanics when compared to the total Even Start population. In the

Exhibit 8.9

Average Monthly Gain on the PPVT in Standard Score Points for Selected Variables (NEIS Data Set)

Group	Monthly Gain		
	N	Mean	SD
Age at pretest			
3-0 to 3-11	460	.31	1.82
4-0 to 4-11	720	1.26	2.13
5-0 to 5-11	307	.81	1.91
6-0 to 6-11	147	.46	2.08
7-0 to 7-11	42	.58	1.96
Gender			
Male	872	.81	2.05
Female	795	.78	2.05
Ethnic background			
Asian	26	1.09	2.09
African-American	556	1.11	2.18
Hispanic	209	.59	2.17
Native American	123	.27	1.63
White	757	.72	1.90
Prior preschool experience			
No	543	.99	2.14
Yes	543	.88	2.12
Highest grade attained by target parent			
Grade 0-4	16	.65	2.59
Grade 5-8	253	.81	2.28
Grade 9-12	995	.82	2.04
Diploma or GED	374	.84	1.90
Form administered at pretest			
Form L	1,638	.85	2.04
Form M	82	.07	2.02
TOTAL	1,676	.83	2.04

Exhibit reads: Children tested twice with the PPVT had a pretest average of 82 (equivalent to a percentile rank of 12) and an average monthly gain of .83 in standard score points. This monthly gain should reflect only the added effect of Even Start since the age norms adjust for developmental growth by setting the average standard score to 100 for each age group.

Exhibit 8.10

Average Monthly Gain on the TVIP
in Standard Score Points by Age at Pretest

Age at Pretest	Monthly Gain		
	N	Mean	SD
3-0 to 3-11	33	.99	2.60
4-0 to 4-11	71	1.39	2.38
5-0 to 5-11	38	1.58	2.16
6-0 to 6-11	25	1.05	2.69
7-0 to 7-11	5	.53	2.36
Total	**172**	**1.28**	**2.41**

Exhibit reads: Children tested twice with the TVIP had a pretest average of 93 (equivalent to a percentile rank of 32) and an average monthly gain of 1.28 in standard score points.

Note: Combined norms (Mexico and Puerto Rico) were used in obtaining standard scores.

In-Depth Study, 14 percent of the children are white, 24 percent are African-American, and 50 percent are Hispanic.

The differences in racial/ethnic background are important because monthly PPVT gains differ by racial/ethnic group: 1.11 standard score points per month for African-American children, .72 points per month for white children, and .59 points per month for Hispanic children (Exhibit 8.10). Because the In-Depth Study contains a larger percentage of Hispanic children than the NEIS, we would expect the effect of Even Start on the PPVT to be smaller in the In-Depth Study than in the overall Even Start population. Unfortunately, the In-Depth Study has a relatively small sample size, making it difficult to detect small effects.

Therefore, it is possible that Even Start is having a positive effect on the PPVT, that we are seeing that effect on the NEIS, but that we are not able to detect the effect in the In-Depth Study because of a combination of small sample size and overrepresentation of Hispanic children who, on average, do not gain as much on the PPVT as African-American or white children.

Child's Emergent Literacy Test

In addition to the PSI and PPVT, we assessed children in the In-Depth Study using a brief set of items designed to tap children's emergent literacy skills. This measure was not used in the NEIS.

Description of the Measure

Children in literate homes begin to learn to read and write very early in life. At two and three years of age they encounter print and have ideas about the process and purposes of reading and writing. Young children are involved in their own literacy development through social interaction with literate parents or other literate persons, through explorations into written language, and through observing the literacy practices of adult models. Emergent literacy constructs include the child's knowledge of some basic information (ordinal position, colors, shapes) as well as more specific information about book and print knowledge.

No existing emergent literacy measure reviewed was ideally suited to Even Start participants (Teale 1986a, 1986b). Therefore, a simple assessment of emergent literacy was created from existing instruments--the Child's Emergent Literacy Test (Abt Associates, 1991). It includes items assessing orientation and directionality of text, recognition of letters and punctuation, purposes of reading, and children's knowledge and skills in writing their own name and age. The CELT was administered to children by trained data collectors in an informal face-to-face setting. It requires only a couple of minutes to administer. The testing was done at the same timepoints as the PSI and PPVT.

Because the CELT was created for this evaluation, there is no history of psychometric characteristics. The reliability (Cronbach's alpha) of the CELT as administered in this evaluation is .76. The CELT consists of 16 items, each is scored correct or incorrect, and a total score ranging from zero to 16 is obtained.

Pretest Levels on the CELT

Children in Even Start and in the control group scored quite similarly on the CELT at pretest: the Even Start pretest mean was 4.3 and the control group pretest mean was 4.5 (see Exhibit 8.11). Standard deviations were almost identical; 2.8 for Even Start and 3.0 for the control group. We have no basis of comparison for these pretest scores since the instrument has not been used in other studies. We should note that ceiling effects are not a problem, since pretest means are between four and five points out of a total of 16. However, the low pretest scores may indicate that the measure is too difficult, and hence is not sensitive to gains for children at this age.

Effects on the CELT

Children in the Even Start group gained one point on the CELT from pretest to posttest--a statistically significant amount. However, children in the control group also gained a small amount, and the program effect (the gain of Even Start children over and above the gain of control group children) was not statistically significant. The In-Depth Study design calls for retesting all children with a second posttest, and it is possible that the follow-up

Exhibit 8.11

Child's Emergent Literacy Test: Effects from the In-Depth Study

	Even Start (n=84)		Control (n=75)	
	Mean	S.D.	Mean	S.D.
Pretest	4.3	2.8	4.5	3.0
Posttest	5.3	2.9	5.1	3.0
Gain	1.0*	--	0.6	--
Program Effect (Effect Size)	0.4 points (.13 s.d.)			

* $p < .05$

Exhibit reads: Even Start children in the In-Depth Study averaged 4.3 points on the CELT pretest.

testing will lead to somewhat different findings. The final evaluation report will address this issue.

Conclusions About Effects on Children

This evaluation assessed effects on children using three different measures: (1) the Pre-School Inventory, a measure of school readiness; (2) the Peabody Picture Vocabulary Test, a measure of hearing vocabulary; and (3) the Child's Emergent Literacy Test, a measure of emergent literacy skills.

Even Start has a clear, positive effect on the PSI. Data from the random-assignment In-Depth Study and the NEIS survey are consistent in indicating that Even Start has a statistically significant, positive effect on the PSI--an effect commensurate in size with effects on the PSI that have been observed in other evaluations of high quality preschool programs. Further, effects on the PSI are quite consistent regardless of age of child, gender, ethnic background, prior preschool experience, education level of parent, location of the pretest, or language in which the test was administered. Thus, Even Start does quite well at teaching school readiness skills to varied groups of children.

Findings on the PPVT are more mixed. Results from the In-Depth Study show no significant program effect. On the other hand, data from the NEIS indicate that Even Start children gain more than would be expected without the program. It is possible that Even Start is having a positive effect on the PPVT, that we are seeing that effect on the

NEIS, but that we are not able to detect the effect in the In-Depth Study because of a combination of small sample size and overrepresentation of Hispanic children who, on average, do not gain as much on the PPVT as black children or white children. Additional data which may lead to firmer conclusions will be presented in the final report from this evaluation. Data from the NEIS also show us that the kinds of outcomes measured by the PPVT (vocabulary development) vary among subgroups of children. Additional analyses will be undertaken to determine whether variation in PPVT scores can be attributed to program characteristics.

Finally, Even Start children in the In-Depth Study gained a significant amount on the Child's Emergent Literacy Test. However, children in the control group also gained a small amount, and there is no significant program effect. As for the PPVT, the results based on follow-up testing will be presented in the final report from this study.

Section Nine

Effects on Parent Literacy

This evaluation measured the effects of Even Start on the literacy skills of parents in the following areas: (1) functional literacy level on a reading test, (2) the percentage of Even Start adults who obtained their GED certificate, and (3) parental reports of their own reading and writing activities in the home.

The Comprehensive Adult Student Assessment System (CASAS)

The Comprehensive Adult Student Assessment System (CASAS) is an adult-oriented functional assessment system that measures a broad range of adult literacy skills and their application in real life domains including consumer economics, government and law, occupational knowledge, community resources, and health (Rickard et al, 1990). Although the CASAS measures reading, writing, math, and problem solving skills, this evaluation used only the Reading Survey achievement test in order to reduce respondent burden and because we expected Even Start's effects to be more prominent in reading than in math.

Description of the Measure

The CASAS has the flexibility to measure participants involved in diverse adult education programs, spanning the range from non-readers to adults at the GED or high school level. An untimed paper-and-pencil test, the CASAS Reading Survey may take as long as 60 minutes to complete.

The CASAS has been used with adult education learners in 27 states. The test is used in adult education and in job training programs, with both native and non-native English speakers. It also has been accepted as a project in the National Diffusion Network. The CASAS is being used in the National Evaluation of Adult Education Programs (Development Associates, 1992), in the evaluation of California's GAIN program (CASAS, 1990), and in the evaluation of California's 321 adult education programs (CASAS, 1991).

CASAS reading scores range from 150 to 260. The test developers suggest the following interpretation of CASAS scale scores:

Beginning literacy (below 200): Adults scoring below a scale score of 200 have difficulty with the basic literacy skills needed to function in an employment setting and in the community. While these adults can handle routine, entry-level jobs, they may have trouble following simple directions and safety procedures.

Basic literacy (200 through 214): Adults scoring between scale scores 200 and 214 can function in entry-level jobs that require only minimal literacy skills. They can fill out simple applications.

Intermediate literacy (215 through 224): Adults scoring between scale scores 215 and 224 are able to perform basic literacy tasks in a functional employment setting. They are generally able to function in jobs or job training that involves following written instructions and diagrams, through they usually have trouble following complex sets of directions.

High school literacy (225 and above): Adults scoring above a scale score of 224 can usually perform work that involves written directions in familiar and some unfamiliar situations. They can function at a high school entry level in basic reading and, if they do not have a high school diploma, can profit from instruction in General Education Development and have a high probability of passing the GED test in a short time.

Sticht (1990) found these interpretations to be reasonable and reported general correspondence between CASAS scale scores above 225 and the ninth to twelfth grade reading levels on the Tests of Adult Basic Education and the Adult Basic Learning Examination. We have only found spotty data on the psychometric characteristics of the CASAS. A correlation of .70 between the CASAS reading test and the ABLE was reported in unpublished data. To obtain an estimate of test-retest reliability we calculated the correlation between pretest and posttest scores for adults who were posttested less than 90 days after the pretest. The correlation was .86, suggesting that the CASAS is a reliable measure. The true test-retest reliability might be even higher since this estimate is based on data from both forms of the CASAS.

For the NEIS, Even Start staff administered the CASAS Reading Survey which has four levels, A through D, with two forms of 24 to 40 items per level. Scale scores link the levels into a continuous scale of achievement. Staff administered a short "locator" test to assist in identifying the appropriate level of the CASAS. There is no Spanish version of the CASAS, and project staff were instructed to use their own judgment as to the appropriateness of administering the test to adults with limited reading skills in English. For the In-Depth Study, the CASAS was administered by trained data collectors using the same schedule and rules as all other In-Depth Study measures.

Effects on the CASAS

Data to assess program effects on the CASAS are available from the In-Depth Study and from the NEIS. The NEIS data show pre-post gains that are statistically significant but

relatively small, and that are about the same size as those seen in other large-scale evaluations of adult education programs. The In-Depth Study data does not show statistically significant gains on the CASAS. Both data sets show a significant relationship between amount of adult education instruction and gains on the CASAS.

Effects as Measured by the In-Depth Study. Adults in Even Start gained 1.9 points on the CASAS, compared to 1.2 points for adults in the control group (Exhibit 9.1). Neither of these average gains was statistically significant, nor was the difference in the gains significant. Some control group members participated in adult education programs, however the findings did not change when the data were reanalyzed excluding those adults.

Exhibit 9.1

CASAS Reading Survey:
Effects from the In-Depth Study
(Scale Score Points)

	Even Start (n = 84)		Control (n = 75)	
	Mean	**S.D.**	**Mean**	**S.D.**
Pretest	227.4	14.3	223.7	19.2
Posttest	229.3	13.0	224.9	16.7
Gain	1.9	--	1.2	--
Program Effect (Effect Size)	0.7 points (.05 s.d.)			

* $p < .05$

Exhibit reads: Even Start adults in the In-Depth Study averaged 227.4 points on the CASAS Reading Survey pretest.

Effects as Measured by the NEIS. Analyses of data from the NEIS were limited to all adults who had a valid pretest and posttest, who had at least three months between pretest and posttest, and who participated in at least 70 hours of adult education instruction between pretest and posttest. These criteria ensured that there was adequate time between test points for gains to occur, and that there was sufficient instruction to produce gains (the CASAS developers do not expect to see educationally significant gains with less than 70 to 100 hours of instruction).

If Even Start has had a positive effect on adult literacy, there should be improvement on the CASAS scale scores between pretest and posttest. We do not have a control group for the NEIS data, nor do we have a theory (as we do for the PSI or PPVT) that a portion of observed pre-post changes are due to some developmental process. Rather, we have to assume that any observed gain is probably due to Even Start since it is unlikely that adult literacy would improve without participation in a formal adult education program.

Analysis of data from the NEIS shows that shows that adults participating in Even Start for 70 hours or more over at least a three month period gained an average of 3.6 scale score points on the CASAS. This gain was statistically significant, not a surprising result given the large number of adults included in the analysis. The effect size for the CASAS (gain divided by the CASAS standard deviation) is .26 standard deviation units, a value that is generally considered small in educational research (Exhibit 9.2).

Exhibit 9.2

CASAS Reading Survey:
Gains from the NEIS
(Scale Score Points)

Group	Gain		
	N	Mean	S.D.
Gender			
Male	46	5.1	10.5
Female	748	3.5	8.5
Ethnic Background			
Asian	11	3.3	16.0
African-American	274	3.1	8.9
Hispanic	159	5.6	8.7
Native American	45	3.2	9.0
White	315	3.3	8.2
TOTAL	825	3.6	8.6

Exhibit reads: Adults participating in 70 or more hours of adult education gained 3.6 scale score points on the CASAS reading. Differences between groups based on gender and ethnic background were not significant after adjusting for pretest differences.

CASAS Gains in Even Start vs. Other Adult Education Programs. Given this relatively small gain, and the fact that the In-Depth Study does not show any program effect, we ask whether this finding is unique to Even Start or if other adult education programs also have difficulty producing measurable gains. There have been few large-scale evaluations of adult education programs which contain outcome data that may be used for comparison purposes. Exhibit 9.3 compares the effect size for the CASAS gains of Even Start adults with the results from studies of other programs.

In one evaluation of federal 321-funded adult education programs in California, researchers (CASAS, 1992) found average gains of 3.0 scale score points (effect size = .20) for 973 students participating in adult basic education and 3.3 points (effect size = .22) for 1,757 students participating in English as a second language programs. All students took the CASAS Reading Survey after 80 to 100 hours of instruction. An earlier study of state-funded compensatory-based adult education programs in California (CBAE, 1987) found gains of 4.2 scale score points (effect size = .29) after 100 hours of instruction, though the measure was the CASAS Survey Achievement battery which includes fewer items to measure a wider range of literacy skills than the Reading Survey test. In an evaluation of the Kenan model which is used by many Even Start projects, researchers (Darling and Hayes, 1989) found small gains on the reading subtest of the TABE (effect size = .29) over one project year covering an unspecified number of instructional hours.

These results show that Even Start is of comparable effectiveness to other adult education programs in improving the literacy skills of participating adults. This is reasonable since many Even Start projects use services provided by local adult education programs for this core service.

CASAS Gains by Hours of Instruction. The wide range in the length of time that families participate in Even Start and in the intensity of the adult education instruction provided by projects furnishes us an opportunity to strengthen our conclusions about CASAS gains. If adults with many hours of adult education instruction improve more than adults who participate only for a few hours, we can be more confident that the instruction (and hence, Even Start) is responsible for this growth. It also is important to examine the effect of entry level on CASAS gains. Due to "ceiling effects" we expect smaller gains for adults starting near the highest valid CASAS score than for adults entering with lower entry scores.

Exhibit 9.4 shows CASAS reading gains for subgroups of adults defined by the number of hours of adult education. Data are shown both for the NEIS and the In-Depth Study. Looking at data from the NEIS, adults who participated for less than 70 hours gained about 2.5 CASAS scale score points, adults who participated for 70-200 hours had an average gain of 3.2 points, and adults who participated for over 200 hours gained an average of 4.9 points. Data from the In-Depth Study show somewhat smaller gains, but the relationship between amount of instruction and CASAS scores is completely consistent with data from the NEIS. Further, this relationship is statistically significant in both data sets and provides important evidence that the adult education instruction

Exhibit 9.3: Comparison of Effect Sizes for Even Start (NEIS Data Set) and Three Adult Education Programs

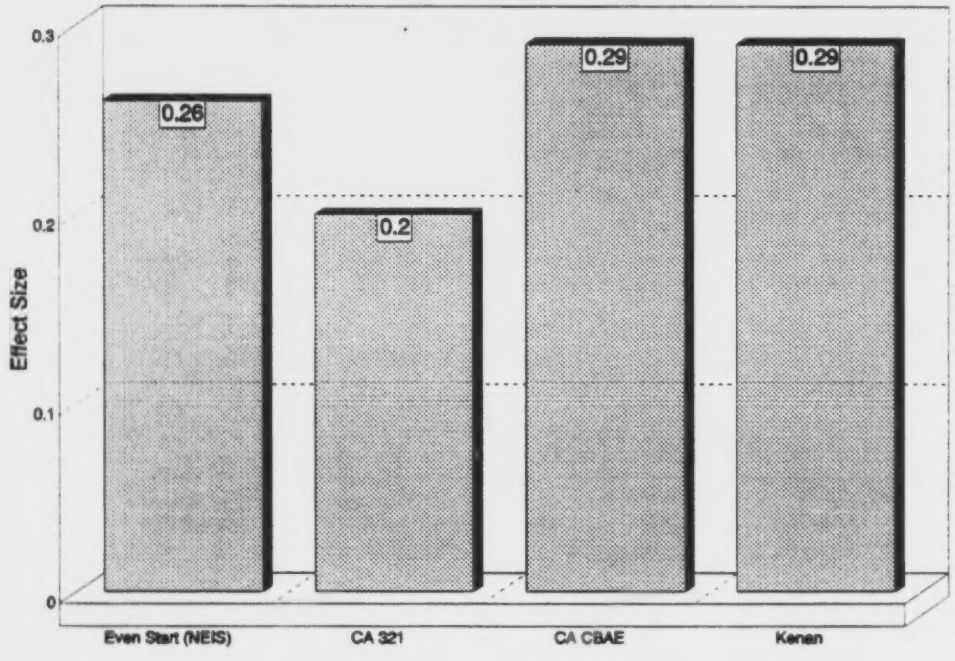


Exhibit reads: The effect size observed on the CASAS suggests that Even Start is about as effective in improving adult literacy as other adult education programs.

provided through Even Start may well be responsible for the gains reported earlier.

Taken together, the pretest and hours of adult education instruction accounted for about 86 percent of the variation in CASAS posttest scores. Exhibit 9.5 illustrates the relationship by estimating CASAS gains for selected entry level scale scores and hours of instruction. As can be seen, the greatest gains can be made with adults who enter with low CASAS scores. In fact, the exhibit shows that changes in posttest scores are much more sensitive to the starting point of the adult than they are to the number of hours of adult education instruction. The implication of this finding is that programs such as Even Start will have the greatest overall impact by recruiting very low-literate adults and providing them with a modest amount of instruction (about 50 hours). Providing additional instruction to these same adults results in diminishing returns, as measured by gains on the CASAS.

Exhibit 9.4

CASAS Reading Gains by Hours of Instruction (Scale Score Points)

Hours of Adult Education Instruction	Number of Adults	Average Pretest	Average Gain	Effect Size
NEIS Data				
1-10 hours	125	228.9	2.5	.18
11-69 hours	460	228.8	2.5	.17
70-200 hours	293	229.5	3.2	.22
Over 200 hours	113	230.6	4.9	.34
In-Depth Study Data				
1-69 hours	74	226.3	1.0	.07
70-200 hours	50	231.9	2.5	.17
Over 200 hours	27	231.9	3.1	.22

Note: In-Depth Study data for this exhibit is based on adults in both the five random-assignment sites as well as five sites where random assignment was not followed.

Exhibit reads: Higher gains on the CASAS were observed for adults with more than 70 hours of adult education. Even higher gains were observed with more than 200 hours.

Attainment of A General Education Development Certificate

Even Start projects promote attainment of a high school diploma or a high school equivalency diploma such as the GED, as do most adult education programs. The rationale for this goal is based upon a belief that a diploma or GED increases the chance the student will find employment, provides opportunities for higher wages, and improves the quality of life through enhanced self-esteem.

Description of the Measure

For the NEIS, projects reported each June whether Even Start adults attained a diploma or GED during the reporting year. We calculated the percentage of Even Start adults who

Exhibit 9.5

Expected CASAS Reading Gains by Entry Level and Hours of Instruction (Scale Score Points; NEIS Data Set)

Entry CASAS Scale Score	Hours of Adult Education Instruction					
	50	100	150	200	250	300
200	8.9	9.2	9.6	9.9	10.3	10.6
210	6.7	7.1	7.4	7.8	8.1	8.5
220	4.6	4.9	5.3	5.6	6.0	6.3
230	2.4	2.8	3.1	3.5	3.8	4.2
240	0.3	0.6	1.0	1.3	1.7	2.0

Note: These expected gains are in scale score points. The estimates are based upon a regression equation (R = .926) of: posttest - (51.546 + .785 x pretest + .0069 x hours)

Exhibit reads: Adults who entered Even Start with a CASAS score of 200 would be expected to gain 9.2 points after 100 hours of adult education instruction.

attained a diploma or GED during the year. Since adults attending a secondary school do not qualify for Even Start, we can assume that the reported data generally reflected attainment of a GED, although other alternative diplomas are possible in some states. For the In-Depth Study, we calculated the percentage of adults in Even Start and in the control group who received their GED in the time between entry to the study and the time a posttest was administered, nine months later. For both the NEIS and the In-Depth Study, we know that some adults participating in the evaluation had already received a high school diploma or a GED at the time of the pretest. These adults were excluded from the analyses described here.

Effects on GED Attainment

Findings from both the In-Depth Study and the NEIS show that Even Start has had a statistically significant, positive effect on the percentage of adults who entered Even Start without a GED or a high school diploma and attain a GED.

Effects as Measured by the In-Depth Study. Data from the In-Depth Study show that 14.3 percent of participating adults in Even Start families attained a GED compared to 3.6 percent of participating adults in control group families (Exhibit 9.6). This is a statistically significant effect which appears to be educationally meaningful.

Exhibit 9.6: Percentage of Adults Attaining a GED or Diploma: In-Depth Study and NEIS

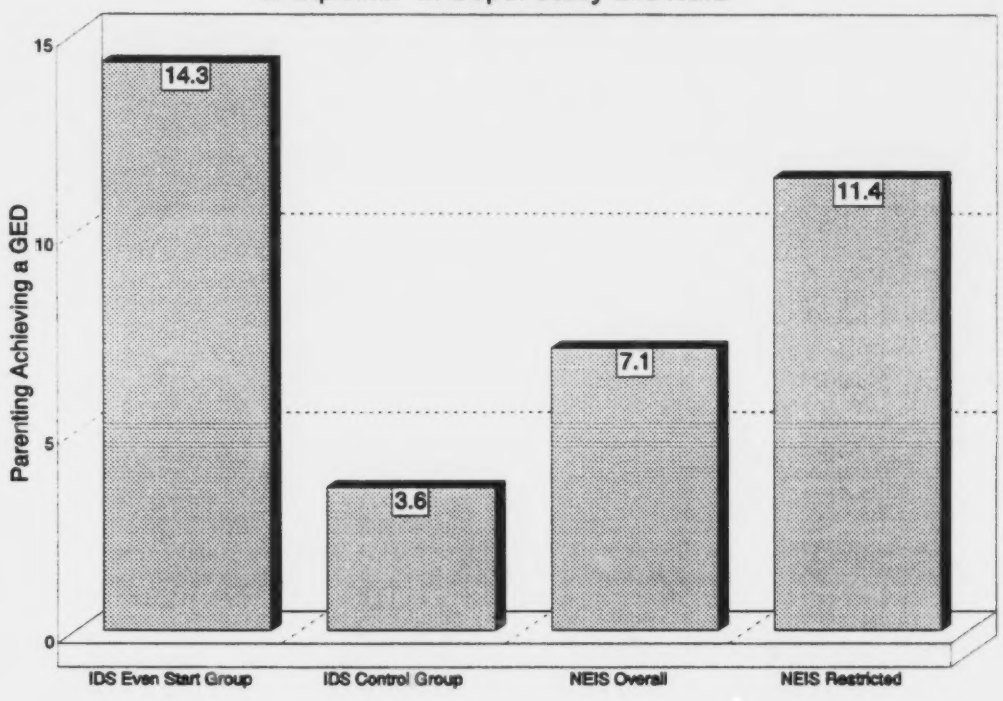


Exhibit reads: Across the 120 projects participating in the evaluation, 7.1 percent of the adults who participated in Even Start attained a GED or diploma.

Effects as Measured by the NEIS. Data from the NEIS show that, across the 120 Even Start projects participating in the evaluation, 7.1 percent of adults who entered Even Start without a GED or diploma achieved one while participating for a year or less in adult education services (Exhibit 9.6). However, attaining a GED is not a reasonable short-term goal for some adults in Even Start. For example, it is unlikely that an adult who enters Even Start with a sixth grade education will be able to achieve a GED in the relatively short time frame of this study. Therefore, we conducted another analysis in which we restricted the sample of adults to those who entered with at least a ninth grade education and who participated in Even Start for at least three months. By eliminating adults who enter with very low education levels or who receive very small amounts of adult education, this restricted sample contains adults who ought to have a reasonable chance of attaining a GED while in Even Start. As expected, the percentage of adults attaining a GED is higher in the restricted sample than in the overall sample (11.4 percent vs. 7.1 percent).

Variation in GED Attainment by Family Characteristics. Additional information about attainment of a GED in the NEIS data set is presented in Exhibit 9.7. There are no

surprises in the exhibit, which shows that several variables are related to attaining a GED. As would be expected, attaining a GED during the year is related to grade at intake to Even Start: almost no adults who entered with less than a fifth grade education attained a GED, compared to 8.7 percent of the adults who entered with some high school education. Attaining a GED also is strongly related to the adult's functional level on the CASAS: adults who scored at the "Beginning," "Basic," or "Intermediate" levels on the CASAS pretest rarely attained a GED (.8 percent), while 12.8 percent of adults who scored at the "High School" level on the CASAS pretest attained a GED during the year. Total hours of adult education instruction is another variable that is related to attaining a GED: adults who had higher amounts of instruction were more likely to attain a GED than adults with lower amounts of instruction.

Variation in GED Attainment Across Projects. Given the great variation among projects in the characteristics of adults served and the amount of adult education instruction received by participating adults, we expect to see substantial variation among projects in GED attainment. Exhibit 9.8 shows a distribution of the percent of adults attaining a GED for projects in the evaluation. Only adults entering Even Start with some high school education and at least three months of adult education instruction were included. Twenty-three projects had fewer than ten adults meeting these criteria, and hence were excluded from the analysis. Among the remaining 100 projects, the within-project percentage of adults attaining a GED ranged from zero to 60 percent. Over half of the projects (57) had less than ten percent of their adults attaining a GED while three projects reported that more than 50 percent attained a GED.

Reading and Writing Activities in the Home

Two sets of questions were included in the In-Depth Study parent interview to ask parents about their own reading and writing habits in the home (these questions were not included in the NEIS portion of the evaluation). Both lists were adapted from a questionnaire used to evaluate the California State Library's Adult Learner Program.

Description of the Measure

The 13 self-report questions about reading activities ask how often the parent reads different types of literacy materials commonly found in and around the home including junk mail, letters and bills, coupons, labels on food, cooking recipes, religious materials, instructions, street signs, newspapers, notes from school, T.V. Guide, magazines, and books. The 11 self-report questions about writing activities ask how often the parent writes at home in the following areas: checks, notes, recipes, forms or applications,

Exhibit 9.7

Number and Percent of Participating Adults Who Attained a GED While Served by Even Start (NEIS Data Set)

Group	All adults lacking a diploma at intake			Adults entering with at least a ninth grade education and participating more than three months		
	Total Adults	Attained GED		Total Adults	Attained GED	
		N	%		N	%
Highest grade at intake						
Grade 0-4	490	2	.4	--	--	--
Grade 5-8	1,765	69	3.9	--	--	--
Grade 9-12	5,452	476	8.7	3,238	369	11.4
Functional level on CASAS at pretest						
Beginning to Intermed	1,400	11	.8	599	8	1.3
High School	2,790	352	12.8	1,594	257	16.1
Total hours of adult education instruction						
1-10 hours	1,230	33	2.6	144	11	7.6
11-69 hours	3,178	208	6.1	1,461	122	8.4
70-200 hours	1,619	194	10.7	1,113	151	13.6
> 200 hours	658	97	12.8	520	85	16.3
Age at intake						
16-21	968	80	8.3	409	52	12.7
21-25	2,327	207	8.9	1,048	142	13.5
26-30	2,026	138	6.8	920	100	10.9
31-35	1,084	58	5.5	440	39	8.9
36-40	528	26	5.0	179	17	9.5
Over 40	413	15	3.6	128	10	7.8

Exhibit 9.7
(continued)

Number and Percent of Participating Adults Who Attained a GED While Served by Even Start (NEIS Data Set)

Group	All adults lacking a diploma at intake			Adults entering with at least a ninth grade education and participating more than three months		
	Total Adults	Attained GED		Total Adults	Attained GED	
		N	%		N	%
$15,000-20,000	497	53	10.7	214	35	16.4
$20,000-25,000	255	30	11.8	120	20	16.7
Over $25,000	208	26	12.5	87	15	17.2
Primary language is English						
No	2,005	33	1.6	472	20	4.2
Yes	5,568	512	9.2	2,702	347	12.8
Ethnic background						
Asian	148	2	1.4	42	2	4.8
African-American	2,287	86	3.8	1,105	57	5.2
Hispanic	1,885	46	2.4	462	32	6.9
Native American	468	42	9.0	227	22	9.7
White	2,746	368	13.4	1,340	253	18.9
TOTAL	**7,707**	**547**	**7.1**	**3,238**	**369**	**11.4**

Exhibit reads: Among the 7,707 adults lacking a high school diploma or GED at intake, 7.1 percent attained a GED while participating in Even Start.

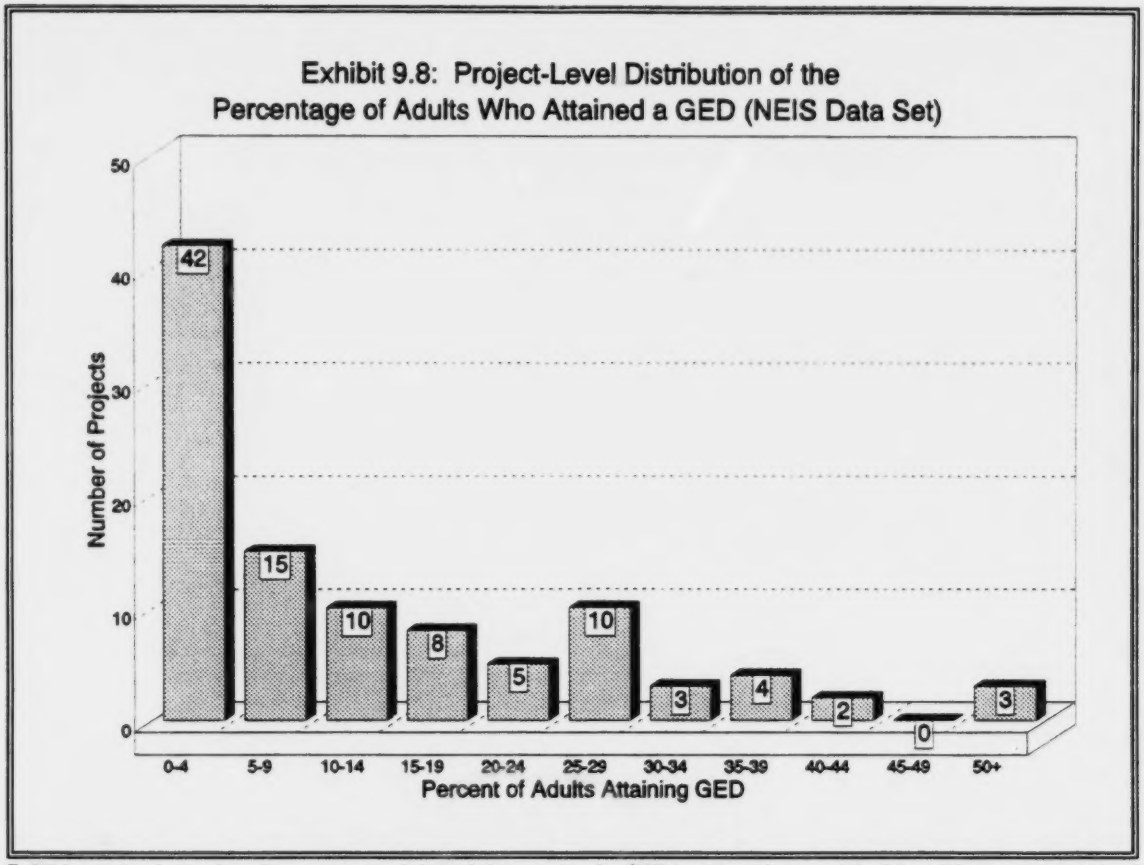


Exhibit reads: Less than five percent of the adults attained a GED in 42 projects while 50 to 55 percent attained a GED in three projects. Only adults with nine to 12 years of schooling at intake and at least three months participation in adult education were included in the analysis.

dates on a calendar, letters, stories or poems, greeting cards, crossword puzzles, grocery lists, and a journal or diary.

These questions are intended to give an indication of the literacy environment in the home. Since most Even Start parents are expected to be poor readers, it is not realistic to expect them to be avid readers and writers. However, it is not known how much they use reading and writing in common household activities. If few of these activities are undertaken, then these homes would truly be impoverished literacy environments. On the other hand, an increase in the use of these simple literacy tasks would be a realistic goal for adults who are working to improve poor reading skills.

Parents responded to each of the questions on a three-point rating scale where a value of 1 meant that the activity was done "not at all," a value of 2 meant that the activity was done "sometimes," and a value of 3 meant that the activity was done "regularly." The scale score for a given parent was computed as the average rating for all completed items in the scale--higher scores mean a higher level of reading or writing activities in the home. Thus, the highest possible scale score is 3.0, and the lowest possible scale score

is 1.0. The reliability (internal consistency) of both scales as assessed in this study is quite reasonable: .80 for the reading activities scale and .71 for the writing activities scale.

Effects on Reading and Writing Activities

Exhibits 9.9 and 9.10 summarize data collected in the In-Depth Study for the Reading Activities Scale and the Writing Activities Scale. Parents in Even Start had a pretest mean of 2.2 points on the Reading Activities scale while parents in the control group had a pretest mean of 2.1 points. The standard deviation was .4 points. On the Writing Activities scale, parents in Even Start and in the control group had identical pretest mean scores of 1.8 points, with a standard deviation of .4 points.

Thus, parents in each of the two groups scored in the middle of the scale range on the pretest, indicating that they do not report particularly low levels of reading and writing activities in the home. While these pretest levels may be higher than expected, there still is room for growth on the posttest. However, Exhibits 9.9 and 9.10 also show that we do not see any significant change either in the Even Start group or in the control group between pretest and posttest. This means that we were not able to detect any measurable program effect over a nine-month period on the extent to which parents use reading and writing as literacy tools in the home.

Conclusions About Effects on Parent Literacy Skills

This evaluation measured effects on parent literacy skills in three areas: (1) functional literacy levels on a reading test, (2) the percentage of Even Start adults who obtained their GED certificate, and (3) reading and writing activities in the home. Even Start has had clear positive effects on GED attainment; the data are positive but mixed about effects on functional literacy; and there is no evidence that Even Start has changed reading and writing activities as reported by parents.

Even Start projects may have been effective in improving the functional literacy of participating adults. Data from the NEIS show that adults who participate in Even Start achieve small, but positive gains on the CASAS Reading Survey, gains which are comparable in size to those observed in other studies of adult education programs. However, data from the In-Depth Study show that the gains of Even Start adults are not significantly greater than the gains achieved by a randomly assigned control group.

It is important that both the NEIS and the In-Depth Study show that the amount of gain on the CASAS is directly related to the amount of instruction received through Even Start. This finding strengthens our confidence that the observed gains can be attributed to adult education. However, adults can and do participate in adult education outside of Even Start. The keys to enhancing program effects in this area may be to strive for the fullest

Exhibit 9.9

Parent Reading Activities in the Home: Effects from the In-Depth Study

	Even Start (n=84)		Control (n=75)	
	Mean	S.D.	Mean	S.D.
Pretest	2.2	0.4	2.1	0.4
Posttest	2.2	0.4	2.1	0.4
Gain	0.0	--	0.0	--
Program Effect (Effect Size)	0.0 points (.0 s.d.)			

* $p < .05$

Exhibit reads: Even Start adults in the In-Depth Study averaged 2.2 points on Reading Activities in the home pretest.

Exhibit 9.10

Parent Writing Activities in the Home: Effects from the In-Depth Study

	Even Start (n=84)		Control (n=75)	
	Mean	S.D.	Mean	S.D.
Pretest	1.8	0.3	1.8	0.4
Posttest	1.8	0.4	1.7	0.3
Gain	0.0	--	-0.1	--
Program Effect (Effect Size)	0.1 points (.25 s.d.)			

* $p < .05$

Exhibit reads: Even Start adults in the In-Depth Study averaged 1.8 points on Writing Activities in the home at pretest.

possible participation in adult education and for an increase in the number of hours per month.

Even Start does have a positive effect on GED attainment. Data from both the In-Depth Study and the NEIS lead to the same conclusion in this area. Without Even Start, it is likely that few of these adults would have found the needed assistance to reach this goal. Compared to the total number of adults served, however, those that do attain a GED represent a relatively small percentage. One hypothesis is that a lack of retention and active participation in Even Start present major barriers to GED attainment. Most participants do not stay with the program long enough to overcome the lack of schooling, low English proficiency, poor test taking skills, or other reasons for not obtaining a diploma or GED.

Still, some of the adults who had not attained a GED at the end of the reporting year for this analysis remain in Even Start and may, yet, achieve this goal. Data on this topic will be available for the evaluation's final report. Another observation is that the reporting system for the evaluation lacks information about individual or project goals relating to GED attainment, making it difficult to find the most appropriate basis for calculating attainment rates. GED attainment is not an immediate or appropriate goal for all participants, nor is it emphasized by all Even Start projects.

Finally, we were not able to detect any measurable program effect over a nine-month period on the extent to which parents use reading and writing as literacy tools in the home.

Section Ten

Effects on Parenting Skills

This section presents findings from the NEIS and the In-Depth Study about Even Start's effects on parenting skills. We are using the term "parenting skills" to broadly include parents' knowledge about appropriate child behaviors and developmental needs as well as the activities and materials available in the home to foster children's development. Helping parents support their children's growth and development is one of the primary goals of Even Start, and the inclusion of parenting skills as a key program component is one of the features that distinguishes Even Start from other literacy and adult education programs.

The section is divided into four parts: (1) parents' personal skills that may affect parenting, (2) the home learning environment, (3) parent-child reading behaviors, and (4) parents' expectations for their children.

Personal Skills

The parent interview for the In-Depth Study included two existing scales to assess parents' depression and sense of self-efficacy or locus of control. These measures were not part of the NEIS data collection.

Description of the Measures

Parents' personal skills have been found to be important mediating variables for parent-child interaction and parents' involvement in their children's education and development (Cleary, 1988; McLoyd, 1990; Parker et al., 1988). Parents who are depressed, have poor self-esteem, or feel "out-of-control" are not likely to provide optimal conditions for their children's growth and development (Upshur, 1988). Thus, parental depression and self-efficacy were considered both as outcomes for the evaluation and as explanatory variables for other short-term effects of Even Start.

The Pearlin Mastery Scale was used to measure parents sense of self-efficacy or locus of control. This seven-item scale assesses the extent to which an individual regards one's life as being under one's own control rather than determined by fate. This scale is included in the national evaluation of the JOBS program, and was selected over other scales because it includes a mix of positive and negative items and has high internal consistency (Cronbach's alpha of .81 in prior research and .63 for the In-Depth Study sample.) The author's work (Pearlin and Schooler, 1978) showing the relationship of the

Mastery Scale to stresses of parenting and family life provides evidence of the scale's construct validity.

The scale consists of seven items such as "There is really no way I can solve some of the problems I have" and "I can do anything I really set my mind." The respondent is asked to rate each item on a four-point scale where "4" indicates "strongly agree" and "1" represents "strongly disagree". Scores were reversed for those items stated negatively, in order to create an average score where "4" indicates a sense of mastery.

Parents' depression was assessed by the Center for Epidemiologic Studies Depression Scale--CES-D developed by Radloff (1977). This instrument is one of the most frequently used measures of depression cited in the psychological literature. The items were designed for use in general population surveys as a short self-report measure. The 20 items on the scale, which represent a subset of those previously validated on longer depression scales, have high internal consistency as indicated by a Cronbach's alpha of .90 in previous research (Hall et al., 1985) and .89 in the In-Depth Study. Moderate test-retest correlations of .51 to .67 have been reported when the scale is administered after two to eight weeks (Radloff, 1977). The construct validity of the scale has been demonstrated by correlations of .49 to .85 with clinicians' ratings and correlations of .72 to .84 with longer self-report scales used with psychiatric and general populations (Weissman et al., 1977).

The 20 items on the CES-D include statements such as "I felt that everything I did was an effort," "I had crying spells," and "I enjoyed life." Respondents were asked to indicate how often they experienced each feeling during the past week. Items are rated on a four-point scale where "0" indicates "rarely or none of the time -- less than one day" and "3" reflects "most or all of the time -- 5-7 days". Positive items were reversed so that a total score could be computed, which ranges from 0 to 60. A total score of 16 or higher is considered to be indicative of depression (Hall et al., 1985).

Effects on Personal Skills

There were no significant program effects on parents' personal skills, although the prevalence of depressive symptoms among adults in both Even Start and the control group is noteworthy.

Effects as Measured by the In-Depth Study. Exhibit 10.1 presents pretest and posttest scores on the Pearlin Mastery Scale and CES-D for Even Start and control parents. On the Pearlin Mastery Scale, the two groups are virtually identical at pretest and posttest. For the CES-D total score, Even Start and control parents also look quite similar at pretest and posttest.

Exhibit 10.2 shows that 45 percent of Even Start and 39 percent of control parents had scores above 16 indicating high depressive symptoms. By posttest, the proportions stayed the same for Even Start parents and rose slightly for the control parents. These slight differences are not statistically significant. However, it is interesting to note the

Exhibit 10.1

Parents' Personal Skills: Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	(s.d.)	Mean	(s.d.)
Pearlin Mastery Scale[a]				
Pretest	2.9	(0.6)	2.9	(0.6)
Posttest	3.0	(0.6)	3.0	(0.6)
Gain	0.1		0.1	
Program Effect (Effect Size)	0.0 points --			
CES-D Total[b]				
Pretest	14.9	(11.5)	15.0	(11.3)
Posttest	16.1	(10.9)	16.0	(11.7)
Gain	1.2		1.0	
Program Effect (Effect Size)	0.2 points (.02 s.d.)			

Exhibit reads: Even Start and control parents scored an average of 2.9 out of a possible 4.0 on the Pearlin Mastery Scale at pretest.

[a]Score represents average across seven items rated on four-point scale, where "4" indicates more positive behaviors or attitudes.
[b]Score represents frequency of 20 depressive symptoms rated on three-point scales.

Exhibit 10.2

Proportion of Parents with High Depressive Symptoms on CES-D: Results from the In-Depth Study

	Proportion of Adults	
	Even Start (n = 84)	Control (n = 75)
Pretest	45%	39%
Posttest	45%	42%
Gain	0%	3%
Program Effect (Effect Size)	3% .08	

Exhibit reads: 45% of Even Start parents reported high depressive symptoms at pretest.

[a]Percentages represent proportion of parents scoring 16 or higher on CES-D total.

proportion of adults in both groups who report depressive symptoms. These results are similar to those reported by Hall and her colleagues (1985), who found that 48 percent of low-income mothers of young children had scores above the cut-off for the CES-D.

Home Learning Environment

The NEIS instruments and the In-Depth Study parent interview include several questions about parents' interactions with their children at home and the extent to which the home environment is conducive to young children's growth and development.

Description of the Measures

Information about parenting and the home environment comes from in-person parent interviews collected as part of the NEIS and the In-Depth Study. For the NEIS, these questions were drawn from three existing instrument:

Home Observation for Measurement of the Environment (HOME). The HOME Inventory (Caldwell & Bradley, 1984) has been used to measure the impact of parent training and education and to assess the quality of the home environment and mother-child relationship in the National Longitudinal Study of Youth (NLSY). Questions on reading activities and toys parents provide for learning were adapted for the Even Start evaluation.

High/Scope Home Environment Scale (H/SHES). A highly structured parent interview was developed by the High/Scope Educational Research Foundation to assess parenting and parent-child interactions for the National Home Start evaluation (High/Scope Educational Research Foundation and Abt Associates Inc., 1975). Questions were drawn from this instrument for Even Start in four categories of activities: books and reading, play materials available in the home, parent teaching, and participating in learning activities.

Parent as a Teacher (PAAT). The Parent as a Teacher (PAAT) self-rating scale was developed by Strom (1984) to assess parents' attitudes toward their children and to determine feelings and values concerning children's behaviors. This instrument was used in the evaluation of Project Giant Step (Layzer, Goodson, & Layzer, 1991) in New York City, a preschool program for disadvantaged families. For the NEIS, questions were selected from two subscales: play -- understanding the developmental function of play and willingness to participate in play with the child; and teaching -- understanding the learning process in young children and confidence in the parent's role as a teacher. For the In-Depth Study, two subscales were added in creativity -- parents' acceptance of creative functioning and encourage its development, and frustration -- absence of frustration or irritation with child's demand for attention.

The parent interview developed for the In-Depth Study was purposefully designed to include the same questions as the NEIS while adding questions about parent-child activities outside of the home and family rules. These items were added because research with low-income families (e.g., Snow et al., 1991) suggests that homes associated with poor school performance often lack structure and supervision; in addition, children from low-achieving homes frequently lack the opportunities that middle-class children have for experiences and interactions outside of their families (Cochran and Brassard, 1979) that can afford opportunities for learning.

The home environment items on the parent interviews ask parents either to indicate the frequency of their own or their child's behaviors or to rate their agreement with statements about child development. In most cases, there are several behaviors or statements for each construct that we are interested in measuring. For example, the question about play materials in the home listed 12 toys or materials and asked the parent to indicate which ones are available in their home. For the analyses, composite scores calculated by taking an average across items were used rather than individual items, in order to handle missing data and increase the reliability of the scores.

Exhibit 10.3 describes these composite scores and presents the internal consistency of the composite scores from the NEIS and the In-Depth Study data. The internal consistency, based on Cronbach's alpha coefficient, is a measure of the extent to which responses to individual items are correlated to the total score. Internal consistencies of .60 or .70 are considered to be moderate, and coefficients above .80 indicate a highly reliable composite score. In general, the reliabilities for the In-Depth Study composites are lower than those for the NEIS because of smaller samples of respondents. Nevertheless, most of the coefficients exceed .60, indicating moderate to good internal consistency.

Two individual items about the home environment are also included in the parent interviews from the NEIS and the In-Depth Study. These include:

> **Story reading**: the frequency with which the parent reads to their child, rated on a five-point scale from never (1) to every day (5).
>
> **Books in the home**: the number of books in the home for the child to look at or read, categorized as none, one-two books, three-nine books, or more than ten books.

Effects on Home Learning Environment

Overall, data from the NEIS and In-Depth Study point to few significant program effects in this area. Data from the NEIS showed statistically significant gains on most of these measures; however, the effect sizes were generally small. In the In-Depth Study, program families reported gains on some measures, but gains were also seen among control group families.

Exhibit 10.3

Description and Reliability of Home Environment Composite Scores

Composite Score	Description	Response Choices	Internal Consistency*	
			NEIS	IDS
Learning activities	Activities that can be used to teach or reinforce cognitive skills such as finding food on store shelves or sorting clean clothes (5 items)	1 Never 2 Once or twice 3 On a regular basis	.89	.67
Reading materials	Reading materials found in the home (5 items) such as magazines and newspapers	1 No 2 Yes	.71	.50
Play materials	Materials found in the home that children can play with (12 items) such as scissors, paints or puzzles	1 No 2 Yes	.76	.68
Teaching child	Things parent has helped child learn during the past month (7 items) such as nursery rhymes and colors	1 No, did not help 2 Yes, helped	.90	.61
Talk with child	Topics parent have discussed with child (8 items) such as school activities or a television program	1 Never 2 Rarely, if ever 3 Once/twice a month 4 Once/twice a week 5 Daily	.91	.65
Family rules	Extent to which family has rules for child's behavior (7 items) such as amount of television or helping with chores	1 Not at all like family 2 Somewhat like family 3 Very much like family	NA	.68
Activities with child	Parent-child activities outside of home in the past month (7 items) such as going to a park or grocery store	1 Not at all 2 Once or twice 3 Once a week 4 Several times a week 5 Almost every day	NA	.49
Parent as a Teacher	Agreement with statements that reflect how children learn or the parent's role as a teacher (14 items on NEIS; 28 in IDS)	1 Disagree strongly 2 Disagree somewhat 3 Agree somewhat 4 Agree strongly	.70	.74

*Coefficients (Cronbach's alpha) range from 0 to 1.0 and indicate the internal consistency of score or relationship between individual items and composite scores.

Effects as Measured in the In-Depth Study. Exhibits 10.4 through 10.11 present the results from the In-Depth Study on the home environment measures. Even Start and control groups were similar at the pretest and posttest for the majority of these indicators. For example, on learning activities in the home (Exhibit 10.4) and teaching child at home (Exhibit 10.5) the Even Start and control groups each gained marginally from pretest to posttest. Even Start families had a statistically significant gain in the number of play materials in the home (Exhibit 10.6) from pretest to posttest; however, the control group showed a small gain over the same time period so that there is not a statistically significant program effect.

There is a statistically significant program effect on the number of reading materials in the home (Exhibit 10.7). This variable measures the number of different types of reading materials in the home (e.g., books, magazines, newspapers). Even Start families showed a ten percent gain from pretest to posttest, which is a statistically significant difference. In contrast, control families reported only a two percent increase, which was not significant. These differences translate into a statistically significant program effect that corresponds to an effect size of .30 standard deviation units.

Effects as Measured by the NEIS. Exhibit 10.12 presents the results on the home environment measures from the NEIS. The gain from pretest to posttest is statistically significant for all of these measures. This is partly due to the large number of adults in the NEIS database. When the effect sizes are considered, the gains range from small to moderate in size. The number of play materials in the home is the one indicator with a moderate effect size.

In order to explore the relationship between gains seen on these parenting measures and participation in Even Start parent education, gains were calculated separately for four levels of parent education attendance, controlling for pretest scores on the parenting measures and the age of the child. The gains for adults who participated in more parenting education were significantly higher, but not importantly larger, than for parents with more minimal participation levels on all indicators except "learning activities" and "teaching child." Exhibit 10.13 presents the gains for the variables where there was a statistically significant relationship to parenting education. The exhibit also shows that the effect sizes for these indicators were small to moderate for all except the "play materials" scale. Thus, while there is some evidence of a relationship between hours of instruction and growth on certain parenting measures, the results do not provide convincing evidence that these small gains can be attributed to the parenting education component of Even Start.

Discussion of Effects on the Home Learning Environment. The Even Start effects we have observed on the home environment measures are small at best. There are several reasons why these findings may be weaker than in adult education or early childhood education. For one thing, there are few models to guide Even Start projects in developing effective instructional approaches to improving parenting skills. In addition, the data shown earlier in this report indicate that participants receive much less parenting education than literacy training. The research literature concurs that the outcomes of parenting education are particularly difficult to assess and there is little consensus about

Exhibit 10.4

Learning Activities in the Home:[a] Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Pretest	3.4	(0.7)	3.3	(0.7)
Posttest	3.5	(0.8)	3.4	(0.8)
Gain	0.1		0.1	
Program Effect (Effect Size)	0.0 points --			

Exhibit reads: Even Start parents scored 3.4 out of a possible 5.0 on the Learning Activities scale at pretest.

[a]Score represents average across five-point scales, where "5" indicates more positive home environment.

Exhibit 10.5

Teaching Child at Home:[a] Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Pretest	73%	(22)	68%	(22)
Posttest	74%	(25)	70%	(21)
Gain	1%		2%	
Program Effect (Effect Size)	-1% (.05 s.d.)			

Exhibit reads: Even Start parents reported at pretest that they taught their children 73 percent of the skills included on the Teaching Child at Home Scale.

[a]Score represents percentage of seven skills parents tried to teach child at home.

Exhibit 10.6

Play Materials in the Home:[a] Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	(s.d.)	Mean	(s.d.)
Pretest	58%	(18)	55%	(20)
Posttest	62%	(22)	57%	(20)
Gain	4%*		2%	
Program Effect (Effect Size)		2% (.10 s.d.)		

Exhibit reads: Even Start parents reported at pretest that they had 58 percent of play materials listed on the Play Materials scale.

*p < .05

[a]Score represents percentage of 12 play materials available in home.

Exhibit 10.7

Reading Materials in the Home:[a] Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	(s.d.)	Mean	(s.d.)
Pretest	55%	(23)	54%	(27)
Posttest	65%	(23)	56%	(27)
Gain	10%*		2%	
Program Effect (Effect Size)		8%* (.30 s.d.)		

Exhibit reads: Even Start parents reported at pretest having 55 percent of the reading materials listed on the Reading Materials scale.

*p < .05.

[a]Score represents percentage of five types of reading materials present in the home.

Exhibit 10.8

Talking with Child at Home:[a]
Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Pretest	3.8	(0.6)	3.7	(0.8)
Posttest	3.7	(0.8)	3.7	(0.8)
Gain	-0.1		0.0	
Program Effect (Effect Size)	-0.1 (.13 s.d.)			

Exhibit reads: Even Start parents scored 3.8 out of 5.0 at pretest on the Talking with Child Scale.

[a]Score represents average frequency across five-point scales, where "5" indicates daily conversations with child.

Exhibit 10.9

Family Rules:[a]
Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Pretest	2.5	(0.3)	2.7	(0.4)
Posttest	2.6	(0.4)	2.7	(0.4)
Gain	0.1		0.0	
Program Effect (Effect Size)	0.1 (.25 s.d.)			

Exhibit reads: Even Start parents scored 2.5 out of 3.0 at pretest on the Family rules scale.

[a]Score represents average across seven three-point scales, where "3" indicates more positive behavior.

Exhibit 10.10

Activities Outside Home:[a]
Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Pretest	2.3	(0.5)	2.2	(0.5)
Posttest	2.3	(0.6)	2.3	(0.5)
Gain	0.0		0.1	
Program Effect (Effect Size)	-0.1 (.20 s.d.)			

Exhibit reads: Even Start parents scored 2.3 out of 5.0 at pretest on Activities Outside of the Home.

[a]Score represents average frequency across seven five-point scales where "5" indicates daily activity.

Exhibit 10.11

Parent as a Teacher:[a]
Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Pretest	2.9	(0.6)	3.0	(0.5)
Posttest	3.1	(0.4)	3.0	(0.4)
Gain	0.2		0.0	
Program Effect (Effect Size)	.2 points (.40 s.d.)			

Exhibit reads: Even Start parents scored 2.9 out of 4.0 on the Parent as a Teacher Scale.

[a]Score represents average across 28 items rated on four-point scale, where "4" indicates more positive attitudes or behaviors.

Exhibit 10.12

Home Learning Environment: Results from the NEIS

Measure	Number of Adults	Average Pretest	Standard Deviation	Gain	Effect Size
Learning activities	2,368	2.2	.49	.18*	.36
Story reading	3,221	3.4	1.2	.27*	.22
Books in home	3,213	3.4	.86	.22*	.33
Reading materials	3,052	.49	.26	.05*	.19
Play materials	3,084	.56	.24	.11*	.46
Teaching child	3,027	.60	.22	.06*	.25
Talk with child	1,698	4.1	.84	.17*	.21
Parent as a Teacher	3,080	3.3	.39	.05*	.12

Exhibit reads: Even Start parents scored 2.2 at pretest on the Learning Activities scale.

* $p < .001$.

the appropriate constructs and few psychometrically sound measures (Weiss & Jacobs, 1988).

A further consideration is that the high pretest averages on some of the measures leaves little opportunity to show growth. Parents in both the Even Start and control groups generally reported on the pretest that their child had participated in many learning activities at home, that there were many books in the home, and that they had done many things to help their child learn. It is possible that parents were trying to give socially acceptable answers and that the "right" answers to items were too transparent.

Parent-Child Reading Task

The Parent-Child Reading Task was designed specifically for the In-Depth Study to measure the parent-child interactions of Even Start participants and control families. The task consists of asking the parent to read a simple book to her child, while a trained observer uses a pre-coded rating form to record several aspects of parent-child interactions. The observation was developed to provide a direct measure of a shared literacy activity and parent-child interactions.

Exhibit 10.13

Gains on Home Environment Measures in the NEIS by Hours of Parenting Education

Measure	Hours of Parenting Education	Number of Adults with Matched Scores	Average Pretest	Average Gain	Effect Size
Story reading	1-10 hours	472	3.3	.21	.17
	11-50 hours	1,541	3.4	.26	.21
	51-150 hours	913	3.5	.28	.23
	Over 150 hours	223	3.5	.43	.35
Books in home	1-10 hours	469	3.3	.12	.14
	11-50 hours	1,535	3.4	.24	.28
	51-150 hours	913	3.4	.23	.27
	Over 150 hours	224	3.5	.32	.37
Reading materials	1-10 hours	441	.50	.01	.04
	11-50 hours	1,456	.49	.05	.19
	51-150 hours	879	.48	.07	.27
	Over 150 hours	211	.49	.06	.23
Play materials	1-10 hours	435	.63	.10	.42
	11-50 hours	1,471	.59	.10	.42
	51-150 hours	891	.59	.12	.50
	Over 150 hours	221	.57	.14	.58
Talk with child	1-10 hours	278	4.2	.11	.13
	11-50 hours	770	4.1	.12	.14
	51-150 hours	473	4.0	.28	.33
	Over 150 hours	135	4.2	.23	.27
Parent as a Teacher	1-10 hours	459	3.3	-.05	-.13
	11-50 hours	1,481	3.3	.05	.13
	51-150 hours	895	3.4	.06	.16
	Over 150 hours	215	3.3	.16	.41

Exhibit reads: Parents with more than 150 hours of parenting education scored 3.5 on the story reading item, compared with parents with 1-10 hours of parent education who scored 3.3.

* $p < .001$.

Description of the Measure

The task is based on research that stresses the importance of reading books to the literacy development of young children. Findings from various studies over the last two decades note that middle-class children who are read to understand and know more words (Chomsky, 1972), have increased language and reading growth (Ninio and Bruner, 1978), learn basic concepts about books (Sulzby, 1985; Snow and Ninio, 1986), and benefit additionally because adults' reading to children acts as "scaffolds" in emerging literacy development (Edwards, 1989). Other research documents the importance of the methods used by parents when they read aloud to their children. The manner in which parents read to children can inhibit or facilitate the child's interest and skill in reading (Lancy, 1988). The quality of the interaction surrounding parent-child reading has been found to shape early reading development more than merely the presence of books or storytime routine (Mason and Allen, 1986).

Further, parents' questioning strategies used when reading aloud to children may promote or limit the cognitive benefits of story book reading (Pellegrini et al., 1990). Heath (1983) has written of the importance that questioning plays in the development of school-type literacies in young children. In three communities she studied, only parents in the middle-class sample used the kind of cognitive questioning strategies that teachers commonly use in school-based instruction. She considers children who are not familiar with this cognitive approach to be at risk when confronted with the demands of formal schooling. Her sample included poor black families from a rural southern region, not unlike some of the Even Start sites.

Thus, the research indicates that parents teach children through the medium of story book reading as they question and comment on the text and pictures, and as they initiate and respond to the child's comments. The management of the story book session reveals much about the relationship, interaction, and teaching strategies that occur between the parent and child around a pleasurable task which, if effectively carried out, promotes literacy development. Several criteria were used to select the book for this task:

- The book had to have a story line. Previous research indicates reading stories has stronger associations with children's reading and language development than looking at books or reading wordless picture books, alphabet books or nursery rhymes (Wells, 1985).

- The book had to have available in Spanish and English to ensure comparability of subject and difficulty of the story across language groups.

- The book had to have relatively easy vocabulary so that it is not too difficult for low-literate parents.

- The book had to have based on subject matter appropriate for girls and boys, children from diverse cultures, and children living in urban and rural areas.

A book entitled *Three Billy Goats Gruff* was selected that met all of the above criteria.

Parents were asked to read the simple story to their child during the testing/interview session for the In-Depth Study. The choice of the English or Spanish version of the books was left up to the parent. The interviewer told the parent that we were interested in learning how parents and children read together, and instructed the parent to read the book the way she usually would read to her child. The interviewer rated the parent's and child's behavior as they read the book.

The rating scale was developed to record parent-child interactions and the parent's approach to reading during the brief story book reading session. The rating scale is divided into two parts. On Part I, the interviewer scored the way the parent read the book (e.g., labeling pictures, asking questions of the child) as well as the child's response and behavior during the session (e.g., pointed to pictures, responded to parent's questions). These categories are adapted from a rating scale developed by Resnick and his colleagues (1987), based on videotapes of mothers reading to their young children, and modified by Edwards (1989). The items are scored as absent or present; counts of behavior were not recorded because pilot testing of the instrument indicated it was not feasibles to categorize and keep a count of diverse behaviors during these relatively brief observations.

Part II of the coding scheme was filled out by the interviewer at the completion of the parent-child reading activity. These general ratings of the quality of the parent-child interaction and the parent's reading are adapted from work conducted by Lancy and Draper (1988). This section includes items rated on a three-point scale to describe the reciprocity and quality of parent-child interaction. Parent and child were rated separately on items such as physical contact and task engagement.

The interviewers were trained by using videotapes of several parent-child dyads reading *Three Billy Goats Gruff*. In addition, an administration manual provided a description and examples of each coding category. For the analysis, composite scores were created as more reliable indicators. Based on conceptual groupings of parents' behaviors assessed on Part I, two composite scores were created and then evaluated for internal consistency. Additional composite scores were created by aggregating child behaviors and the general affect scores. The composite scores from Part I of the rating scheme were created by totaling the number of different behaviors that occurred during the session. On Part II, composite scores were calculated as the average scoring across the three-point scales. Exhibit 10.14 presents the reliability coefficients for the composite scores and lists the individual items included. Reliabilities are quite good, ranging from .71 to .80 for the five composite scores.

Effects on the Parent-Child Reading Task

There were no significant gains for any of the indicators of parents' behaviors in either Even Start or the control group. Significant gains from pretest to posttest were seen for

Even Start children's involvement in the reading experience, but no program effects were found.

Effects as Measured by the In-Depth Study. The pretest and posttest means for the behavioral ratings on the Parent-Child Reading Task are presented in Exhibit 10.15. There was virtually no change between pretest and posttest for either the Even Start or control groups, and no program effects. Similarly, there are no significant program efforts for the general affect ratings of parents or children (Exhibit 10.16), although Even Start children did show significant increases in their involvement and interaction during the reading activity.

Parents' Expectations

Description of the Measures

Questions about parents' expectations for their children's school success were adapted from the parent interview designed by Abt Associates for use in Prospects, the national longitudinal study of Chapter 1 (Puma et al., 1993). In both the NEIS and In-Depth Study, parents were asked to rate how well they expected their child to do in school (from "very well" to "very poorly") and the likelihood that their child will graduate high school (from "very likely" to "probably won't graduate high school").

Effects on Parents' Expectations

The NEIS and In-Depth Study data showed significant gains and similar results for parents' expectations about their children's school success.

Effects as Measured by the In-Depth Study. Exhibit 10.17 presents expectations among parents in Even Start and the control group. There is a small, but statistically significant program effect on parents' expectations for their children's success in school. Although both groups of parents tended to believe their children will do well in school, the expectations of parents in Even Start increased from pretest to posttest while those of the control parents stayed the same.

Parents in both Even Start and the control group, on average, felt that their children are likely to graduate from high school. As Exhibit 10.17 indicates, there are no statistically significant differences from pretest to posttest for either group, and no program effect.

Effects as Measured by the NEIS. The results from the NEIS are presented in Exhibit 10.18. Interestingly, the average expectations and the magnitude of the gain are similar to those seen in the IDS. Given the sample sizes here, these small gains are statistically significant for the NEIS data.

Exhibit 10.14

Composition and Reliability of Scores on Parent-Child Reading Task

Composite Score	Items	Internal Consistency Coefficients
Parent describes book to child[a]	Points to pictures or words; labels pictures; describe pictures or text; elaborates on pictures or text.	.71
Parent questions or responds to child[a]	Links pictures or story to child's life; asks child to identify pictures; repeats child's comments or words; elaborates on child's comments; responds to child's questions; asks comparative inferential or cause-and-effect questions.	.71
Child responds[a]	Points to pictures; labels or names picture; repeat words or elements of story; acts out or makes sound related to story; links story content or pictures to own life; responds to parent's questions; asks questions, makes comments related to book or parent's comments.	.74
Parent's general affect[b]	Task engagement; positive affect; interactive contact with child; physical contact with child; pace; control of book; reading fluency; reading delivery.	.80
Child's general affect[b]	Task engagement; positive affect; interactive contact with parent; physical contact with parent.	.75

[a]Each item in composite scored as present or absent.

[b]Scored on three-point scale.

Exhibit 10.15

Parent-Child Reading Behaviors: Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Parent describes book[a]				
Pretest	2.1	(1.4)	2.4	(1.4)
Posttest	2.1	(1.3)	2.3	(1.4)
Gain	0.0		-0.1	
Program Effect (Effect Size)		0.1 points (.07 s.d.)		
Parent questions or responds to child[b]				
Pretest	1.6	(1.7)	1.9	(1.7)
Posttest	1.6	(1.6)	1.8	(1.6)
Gain	0.0		-0.1	
Program Effect (Effect Size)		0.1 points (.06 s.d.)		
Child's responds[c]				
Pretest	2.6	(2.0)	3.0	(2.0)
Posttest	2.9	(1.9)	3.0	(1.8)
Gain	0.3		0.0	
Program Effect (Effect Size)		0.3 points (.15 s.d.)		

Exhibit reads: Even Start parents at pretest exhibited an average of 2.1 out of 4 behaviors related to describing the book to their child.

[a]Score represents occurrence of four parent behaviors.

[b]Score represents occurrence of six parent behaviors.

[c]Score represents occurrence of seven child behaviors.

*$p < .05$.

Conclusions about Effects on Parenting Skills

This evaluation measured effects on parenting skills in four areas: (1) parents' personal skills, (2) the home learning environment, (3) parent-child reading, and (4) parents' expectations for their children. In general, there were few program effects on these measures.

Exhibit 10.16

General Affect Ratings on Parent-Child Reading Tasks: Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
Parent's general affect[a]				
Pretest	2.3	(0.4)	2.4	(0.4)
Posttest	2.3	(0.0)	2.4	(0.4)
Gain	0.0		0.0	
Program Effect (Effect Size)	0.0 points --			
Child's general affect[b]				
Pretest	2.1	(0.5)	2.3	(0.5)
Posttest	2.3	(0.5)	2.4	(0.5)
Gain	0.2*		0.1	
Program Effect (Effect Size)	0.1 points (.14 s.d.)			

Exhibit reads: Even Start parents at pretest received an average rating of 2.3 out of 3 on the general affect items.

[a]Score represents average on eight items rated on three-point scales, where "3" indicates positive behavior.

[b]Score represents average on four items rated on three-point scales, where "3" indicates positive behavior.

*$p < .05$.

Parents' personal sense of well-being, as measured by a sense of mastery and lack of depression, has been cited in the research literature as related to the nature and quality

of parent-child and family relationships. Data from the In-Depth Study did not reveal significant differences between program and control groups. The overall prevalence of depressive symptoms was high among this group of families, although similar to those reported with other low-income populations. It is possible that these psychological problems are difficult to ameliorate with programs such as Even Start, or at least difficult to change in the short-term. Perhaps with continued gains in other areas such as educational attainment and employment, parents will express different opinions about their sense of mastery and happiness. It is also possible that projects have not focused

Exhibit 10.17

Parent's Expectations for Their Child: Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d.)**	**Mean**	**(s.d.)**
How child will do in school[a]				
Pretest	4.3	(.82)	4.0	(.84)
Posttest	4.4	(.69)	4.0	(.96)
Gain	0.1*		0.0	
Program Effect (Effect Size)	.10 points* (.12 s.d.)			
Likelihood of child graduating from high school[b]				
Pretest	3.7	(.62)	3.6	(.68)
Posttest	3.8	(.43)	3.7	(.45)
Gain	.1		.11	
Program Effect (Effect Size)	-.02 points (.03 s.d.)			

Exhibit reads: Even Start parents at pretest rated the likelihood that their child would graduate from high school as 3.7 out of a possible 4.0.

[a]Item rated on five-point scale where "5" equals "very well" and "1" indicates "very poorly".

[b]Item rated on four-point scale where "4" indicates "very likely" and "1" indicates "probably will not graduate from high school".

*$p < .05$.

on these problems and may be able to help parents through increased collaboration with medical and mental health agencies.

Even Start appears to be having a significant impact in only one area of the home environment: the number of reading materials in the home. While all variables on the NEIS showed a significant change from pretest to posttest but small effect sizes, this was the one variable where there was a significant gain among Even Start participants in the In-Depth Study. Since this is one measure out of many, this finding should be interpreted with caution. However, many Even Start projects make a concerted effort to increase the number of books, magazines and newspapers in participants' homes, either through loans or free donations of reading materials.

Although parents' expectations for their children are high at pretest, there were small program effects on parents' expectations for school success which were seen in the NEIS and In-Depth Study data.

There were virtually no significant program effects seen in the parent-child reading task. The Parent-Child Reading Task was developed as a new measure to extend the information collected from the In-Depth Study beyond the traditional paper-and-pencil tests. In addition, Even Start project directors urged us to collect some direct assessment of parent-child interaction and a shared literacy activity. However, the limited changes recorded from pretest to posttest on this measure raise questions about the utility of the rating scale in its present format. A third round of data on the Parent-Child Reading Task will be available this summer and included in the final report of this evaluation. At that time, we will have a better sense of the value of the rating scale and recommendations for revisions to the form for future research.

One shortcoming of the measure may be that it is not sensitive enough to differences between parents to show changes over time. The choice to make the coding a simple check of behaviors rather than a count means that we cannot differentiate parents who display multiple examples of positive behaviors from those who exhibit the behavior only once. Much of the prior research in this area used videotapes and coded mother-child behaviors from the tapes. We felt that this would be a costly approach and also would make some parents and children feel uncomfortable.

Another difference between the current measure and the research tools on which it was based is the purpose of the observation. Most of the prior research studies (e.g., Lancy and Draper, 1988; Pellegrini et al., 1990; Resnick et al., 1987) were attempting to describe the content and quality of parent-child reading in order to determine whether mothers incorporated teaching strategies when they read to their child or to relate parents' reading strategies to the acquisition of the child's reading ability. Thus, using this type of instrument to assess program effects is a new application that may require more differentiated coding schemes.

Exhibit 10.18

Parent's Expectations for their Child: Results from the NEIS

Measure	Number of Adults	Average Pretest	Standard Deviation	Gain	Effect Size
How child will do in school[a]	2,857	4.2	.81	.10*	.12
Likelihood of child graduating from high school[b]	3,098	3.7	.53	.05*	.10

Exhibit reads: Parents are pretest rated the likelihood that their child will graduate from high school as 3.7 out of a possible 4.

[a]Item rated on five-point scale where "5" equals "very well" and "1" indicates "very poorly".

[b]Item rated on four-point scale where "4" indicates "very likely" and "1" indicates "probably will not graduate from high school.

* $p < .05$.

Section Eleven

Effects on Families

This section presents results from the In-Depth Study on the social supports and financial resources available to Even Start families. Information on employment status from the NEIS and In-Depth Study also is reported. By providing support services to participating families and engaging parents in program activities, it is hypothesized that Even Start may help families develop a wider social network and greater access to social services. In addition, adult education services could enable parents to find work or change to higher paying jobs, with the long-term effect of increasing income from wages and reducing reliance on public assistance. In addition, this section describes results from focus groups with Even Start parents about their perceptions of the program's impact on their families.

Social Support

The term "social support" refers to the help and support offered to individuals and families by their relatives, friends and neighbors. The availability of this support can affect one's psychological well-being by providing direct assistance as well as serving as an informal referral source to community services (Gottlieb, 1976). Adequate social support also has been linked to outcomes for children. The availability of a support network for parents influences children both in terms of the amount of emotional energy that parents have for their children as well as the increased opportunity for interactions and experiences outside of the home that provide sources of cognitive and social stimulation for children (Cochran and Brassard, 1979).

Description of the Measure

The Inventory of Socially Supportive Behaviors (ISSB), developed by Barrera, was included in the parent interview for the In-Depth Study to obtain information about parents' social supports. This measure was chosen over other measures of social support because it includes concrete behaviors in additional to emotional support, uses clear and simple language, and assesses the frequency of support rather than perceived satisfaction with available supports.

The ISSB was designed to assess various types of assistance that people have available in everyday life. The scale includes 40 behaviors such as: provided you with a place where you could get away for a while, provided you with transportation, told you who you should see for assistance, and loaned you over $25. Respondents are asked to rate the frequency of each event in the past month on a five-point scale from "not at all" (1)

to "almost every day" (5). The measure is scored by creating either a total additive score across all items or an average score if ratings are missing from some items.

In previous research, the measure has demonstrated adequate psychometric properties. The test-retest reliability for the total score was .88 when the measure was administered twice over a two-day period (Barrera, 1981). The internal consistency of the total score has generally been above .90 (Barrera, no date). For the In-Depth Study, the ISSB scale was shortened to 27 items to reduce respondent burden. The internal consistency, as measured by Cronbach's alpha, was .92 for the total score based on these 27 items.

Effects on Social Support

There was no program effect on the social support scale in the In-Depth Study. This scale was not part of the NEIS. Exhibit 11.1 presents the pretest and posttest scores on the ISSB. Parents in Even Start and the control group gave very similar ratings to the frequency of social support, and there are no statistically significant differences between the groups.

Family Resources

A number of researchers have discussed the impact of limited financial resources on family dynamics, parenting, and child growth and development. Families living in poverty are more likely to experience greater and more chronic stress than middle or upper income families; in addition, the incidence of major stresses, such as inadequate housing and lack of money for food, creates psychological stress that affects parent-child and parent-parent interactions within the family (Parker et al., 1988). As a result, poor families are more likely to exhibit punitive parenting styles than more economically advantaged families (McLoyd, 1990).

Description of the Measures

Information about family resources comes from three areas of the parent interview: a question about the major sources of household income, a question categorizing the level of family income, and a set of questions about the adequacy of family resources.

The family resource scale is an adaptation of an instrument developed by Leet and Dunst for use in family intervention programs (Dunst et al., 1988). It is one of the few measures we have seen that tries to assess the adequacy of resources for basic necessities (e.g., food for two meals a day, indoor plumbing, and owning or having access to a telephone). The scale includes 25 items which respondents are asked to rate on a five-point scale from "not at all adequate" (1) to "almost always adequate" (5). An average rating across the 25 items was created as a composite score.

Exhibit 11.1

Social Support: Results from the In-Depth Study

	Even Start (n = 84)		Control (n = 75)	
	Mean	**(s.d)**	**Mean**	**(s.d)**
Inventory of Socially Supportive Behavior*				
Pretest	2.4	(0.7)	2.2	(0.8)
Posttest	2.4	(0.8)	2.4	(0.8)
Gain	0.0		0.2	
Program Effect (Effect size)		-0.2 points (.25 s.d.)		

Exhibit reads: Even Start parents scored an average of 2.4 out of 5.0 at pretest on the ISSB scale.
*Score represents average across 27 items rated on five-point scale, where "5" indicates greater frequency of social support.

In prior research, the measure has shown adequate psychometric properties. The authors report a Cronbach's alpha of .92, a split-half reliability of .95 corrected for length using the Spearman-Brown formula, and a test-retest reliability of .52, based on administering the scale to 45 individuals on two occasions two months apart (Dunst and Leet, 1987). In the In-Depth Study, the internal consistency of the composite score was .85.

Effects on Family Resources

There was a statistically significant increase in the adequacy of family resources reported by Even Start families; however, control group families also gained a small amount and there was no significant program effect. There were no program effects on income or reliance on government assistance. The lack of effects on income is to be expected, since changing income is a relatively long-term outcome for Even Start.

Exhibit 11.2 presents the results on the Family Resource Scale for Even Start and the control group. Both groups reported an average of 3.6 out of a possible 5.0 on the pretest, indicating that they perceived their resources to be between "sometimes adequate" and "usually adequate" at the time they entered Even Start. This suggests that parents did not perceive a large problem with a lack of resources. In both groups, the average rating of the adequacy of family resources rose slightly from pretest to posttest. This gain was statistically significant for the Even Start participants; however, the difference was not large enough when compared to the gain among the control group to show a statistically significant program effect.

Exhibit 11.2

Adequacy of Family Resources: Results from the In-Depth Study

	Even Start (n=84)		Control (n=75)	
	Mean	(s.d)	Mean	(s.d)
Family Resource Scale[a]				
Pretest	3.6	(0.6)	3.6	(0.6)
Posttest	3.8	(0.6)	3.7	(0.5)
Gain	0.2*		0.1	
Program Effect (Effect size)	0.1 points (.17 s.d.)			

Exhibit reads: Even Start families scored an average of 3.6 out of 5.0 at pretest on the Family Resources Scale.

[a]Score represents average across 25 items rated on five-point scale, where "5" indicates more adequate resources.

*$p < .05$.

Exhibit 11.3

Financial Resources: Results from the In-Depth Study

	Even Start (n=84)	Control (n=75)
Household Income Less than $10,000		
Pretest	72%	72%
Posttest	62%	71%
Gain	10%	1%
Program Effect	9%	
Receiving Government Assistance		
Pretest	48%	41%
Posttest	44%	43%
Gain	4%	-2%
Program Effect	6%	

Exhibit reads: 72 percent of Even Start parents had household incomes less than $10,000 at pretest.

Exhibit 11.3 shows the percentage of families at pretest and posttest (a) whose household income was less than $10,000, and (b) who receive government assistance.

While the percentage of Even Start families with income below $10,000 dropped from 72 percent at pretest to 62 percent at posttest, this is not a statistically significant difference from the changes seen among the control group.

A second way to analyze these data is to focus just on those families whose income was below $10,000 at the pretest to see how many were able to increase their income above this level. Exhibit 11.4 shows that 23 percent of Even Start families and 13 percent of control families reported increases that moved their income from under to over $10,000. However, these differences are not statistically significant.

The percentage of Even Start families on government assistance dropped from 48 percent at pretest to 44 percent at posttest (see Exhibit 11.3), while the percentages among the control group rose slightly. However, these differences are not statistically significant. Exhibit 11.5 shows the percentage of families in each group who were able to get off of public assistance in Even Start (24 percent) and the control group (16 percent). Once again, these differences are not statistically significant.

Employment Status

Although Even Start is not primarily an employment and training program, the adult education component of the program could effect changes in parents' employment status by increasing their skill levels and employability.

Description of the Measure

The parent interview for the NEIS and the In-Depth Study asks respondents to indicate their current employment status as working full-time, working part-time or not working. For the NEIS, these questions were asked at program entry and again either at the end of the program year or at exit. In the In-Depth Study, employment status was asked at the pretest and posttest. The information was specific to the adult targeted for the evaluation, and does not necessarily reflect whether anyone in the household is employed.

The analyses focused on the percentage of adults who were unemployed at program entry versus those working part-time or full-time. We aggregated data about part-time and full-time employment for a number of reasons. First, Even Start project directors pointed out that for mothers of young children, part-time work is a positive outcome. Also, part-time employment in a job with higher wages can be an improvement over a full-time but low-paying job.

Exhibit 11.4: Percentage of Families Who Increased Income Above $10,000 by Posttest: In-Depth Study

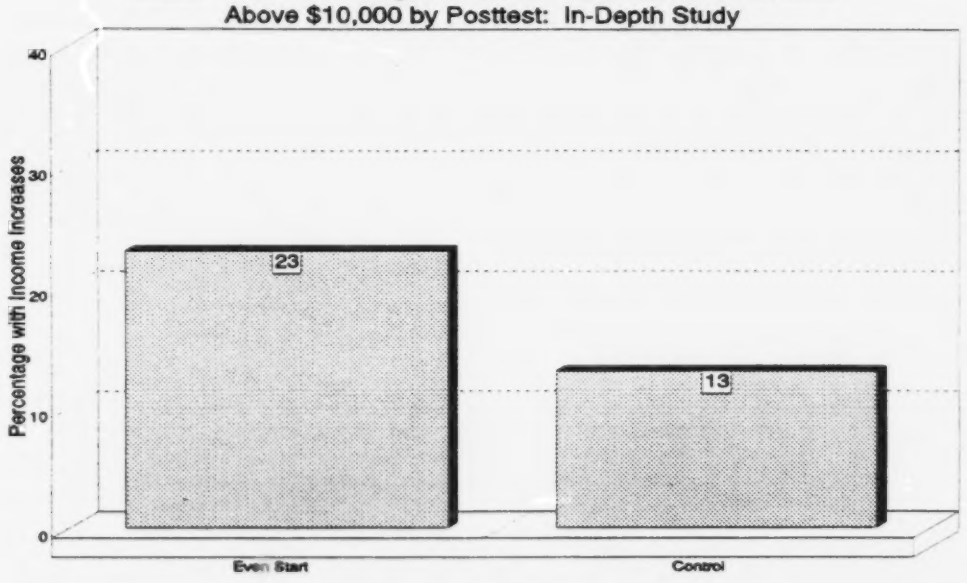


Exhibit reads: Of those families whose household income was less than $10,000 at pretest, 23 percent of Even Start families and 13 percent of control families reported incomes above $10,000 at posttest.

Effects on Employment Status

Based on results from the In-Depth Study and the NEIS, Even Start does not appear to have any significant short-term effects on participants' employment status. However, the conceptual model for this evaluation shows that effects on employment would be expected in the long-run, not over a short time period.

Effects as Measured by the In-Depth Study. Exhibit 11.6 shows the percentage of parents in the Even Start and control groups who were not employed at the pretest and posttest. While some adults who were unemployed at pretest became employed by posttest, there are no significant program effects. When the sample is restricted to just those adults who were not employed at pretest, approximately equal percentages of adults in Even Start (12 percent) and the control group (15 percent) found work by posttest (Exhibit 11.7).

Effects as Measured by the NEIS. Exhibit 11.8 presents information about the percentage of adults who were not employed at program entry for the total group of respondents and for subgroups of participants. Approximately 78 percent of the adults participating in Even Start were not employed at pretest. Nearly 10 percent of these participants found employment by the end of the program year or by the time that they exited from Even Start. The results were fairly consistent across subgroups of participants.

Exhibit 11.5: Percentage of Families Who Got Off Public Assistance as Primary Source of Income

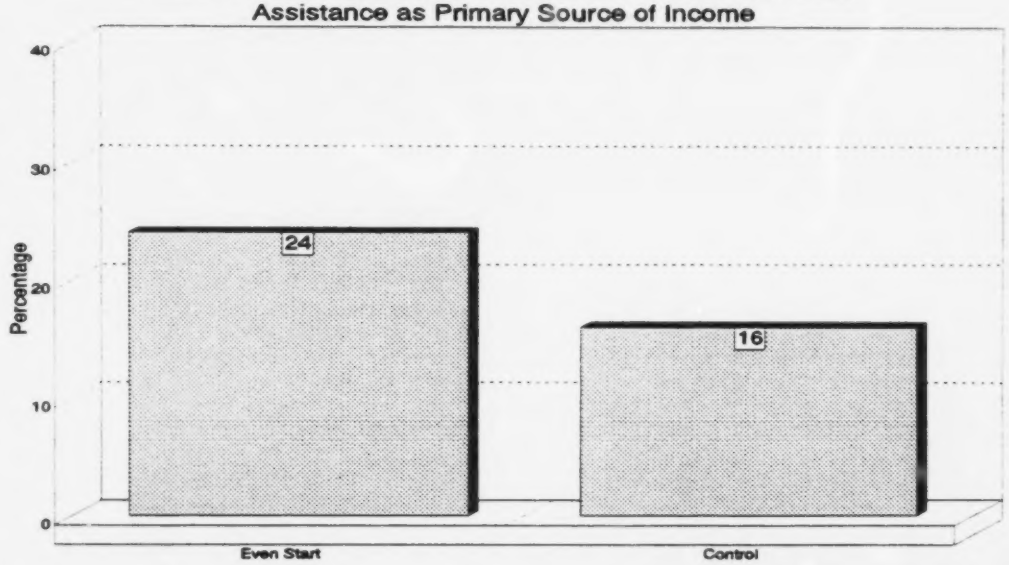


Exhibit reads: Of those families whose primary source of income was public assistance, 24 percent of Even Start families and 16 percent of control families no longer relied solely on public assistance by posttest.

Parents' Perceptions of Program Impacts

As part of the In-Depth Study, parents in Even Start were asked for their assessment of the program's impact.

Description of the Measure

During the annual site visits to the ten In-Depth Study projects, Abt staff conducted focus groups with Even Start parents to obtain their views of the program. These discussions were held with approximately ten parents at each site. Project directors invited parents to take part in the focus group, but their participation was voluntary. Topics for the focus groups included the reasons why parents joined Even Start and the impact of the program on themselves and their family.

Perceived Effects on Adults

Parents described a number of positive effects of their participation in Even Start, including improved personal skills, increased parenting ability and learning gains.

Exhibit 11.6

Employment Status: Results from the In-Depth Study

	Even Start (n=84)	Control (n=75)
Not Employed		
Pretest	83%	80%
Posttest	76%	76%
Gain	7%	4%
Program Effect	3%	

Exhibit reads: 83 percent of Even Start parents were not employed either part-time or full-time at pretest.

In some programs parents noted that the main reason they joined Even Start was for the adult education. Some parents were interested in preparing for the GED certificate, continuing their education or improving English proficiency. Others stated that education was a way to improve their lives. As one woman said, "I want to better myself, to take up a trade, to be a nurse's aide." Another parent indicated a desire to "do something with my life."

Several parents commented that having the early childhood services available was a plus for them as well as their children. Being able to bring their children with them to adult education classes is important to a number of mothers. For some it is the convenience, for others it is the safety--knowing where their children are and being able to check on them during the day eased parents' concerns.

Even Start participants also discussed the changes they experienced in their interactions with their children. Although most parents indicated that the parenting classes were not the main reason for joining the program, they now viewed this component as extremely important. Through the parenting classes and home visits, parents described being able to communicate more effectively with their children. The program also has helped them learn how to play with their children--to be creative with their children, to make games for their children, and to plan activities for their children at home.

Parents described being able to interact more positively with their children and deal with the stresses they feel as a parent without "exploding." Several parents spoke of having more patience with their children and using less physical punishment. One mother told how she has learned not to criticize her children as much, but rather to give them praise; further, she felt that she has developed more realistic expectations about her children and herself.

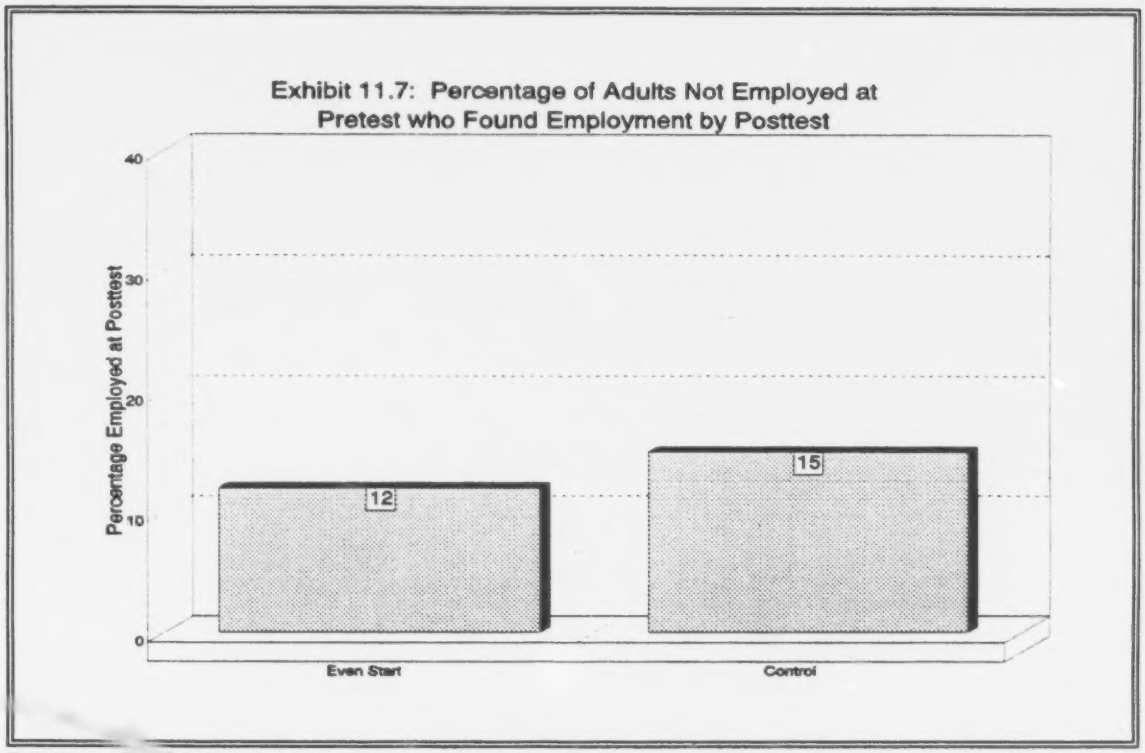


Exhibit reads: Of those adults who were not employed at pretest, 12 percent of adults in Even Start and 15 percent of adults in the control group were employed at posttest.

A number of parents commented that they have higher personal goals and more self-esteem as a result of Even Start. One woman stated that before she joined the program, she viewed the GED as "working papers," but now she sees the certificate as "the first step towards a better life."

The program also has reduced the parents' sense of isolation and being "trapped at home with their children." Although some of the women knew each other before enrolling in the program, they had only limited interaction. As one mother said, "you can live right next door to someone and not know them." Now they check up on each other and visit or call if someone has missed class. Another mother commented that "for most of us, it's just us and our kids." Even Start has given them the opportunity to interact with other adults who have similar problems and experiences. As a result, participants feel better able to cope with life situations.

In several programs, participants described Even Start as their "family." In one project, parents gave staff high marks for being respectful and willing to do anything for the families--"we just pick up the phone and tell them we need help and they are there." In another site, parents told how staff treat them "as human beings without putting you down or judging you," but all the while "helping us in a new way of life." In a third site, parents pointed out that the friendly and supportive environment of the program allows parents to feel valued and know that their concerns are taken seriously.

Perceived Effects on Children

Parents were quite positive about Even Start's effects on their children. Children's attitudes toward reading and schooling have changed to excitement and eagerness to learn. Several parents cited specific skills that their children have learned, such as using scissors, learning the alphabet and the name of colors. Parents with older children stated that their younger children in Even Start are much better prepared for public school than their older siblings--they know how to take the bus, they can read, they speak English better and they are "just less afraid."

In addition to cognitive skills, improved verbal and social skills were documented by many parents. One mother stated that her child rarely spoke before he attended Even Start, and "now he talks constantly." Others commented that the program has helped their children to be less shy, to speak more clearly, and to separate more easily from their mothers. As one mother described it, " my children does more for himself in everything--in eating, in dressing himself...he isn't always hanging onto me anymore."

Parents reported that their children are now better behaved. One mother described her son's pre-Even Start activity level as similar to "a grasshopper," but now he is more calm and controlled. Parents also described their children as more helpful and cooperative at home. The organizational skills that children learn at school (e.g., putting things back in their place) have carried over to the home as well.

Conclusions about Effects on Families

The In-Depth Study included several measures of the effects of Even Start on participating families, including their perceived social support, adequacy of financial resources, income level and sources and employment status. The NEIS instruments had questions about income and employment. Across these measures, gains from program entry to the end of the first program year were minimal. It is possible that these areas are difficult to change because they are affected by circumstances beyond the control of the program, such as the local economy and the availability of jobs. It is also likely that these indices will not show large changes in the short-run, but instead require longer interventions and other positive short-term impacts in order to achieve significant gains.

While there are few effects for families on these quantifiable variables, Even Start participants quite a number of qualitative changes in their lives and the lives of their children. Listening to the personal stories of program participants, it becomes apparent that most of the changes in attitudes and skills that the parents see in themselves and their children are positive short-term impacts of the program. Parents describe themselves as moving toward their goals of an educational certificate, getting a job and being a better parent. Given the current status of the Even Start parents, it is reasonable that we do not yet see changes in the more distal outcomes of increased employment and income.

Exhibit 11.8

Employment Status: Results from the NEIS

Group	All Participants			Not Employed at Intake		
	Total Adults	Not Employed at Intake		Total Adults	Found Employment	
		N	%		N	%
Age at Intake						
Under 21	1,131	995	88.0	916	65	7.1
21-25	3,029	2,522	83.3	2,320	230	9.9
26-30	2,936	2,239	76.3	2,093	234	11.2
31-35	1,641	1,136	69.2	1,052	111	10.6
36-40	798	563	70.6	515	58	11.3
Over 40	593	432	72.8	406	21	5.2
Gender						
Male	971	442	45.5	406	68	16.7
Female	9,323	7,545	80.9	7,002	662	9.5
English is primary language						
No	2,753	2,093	76.0	1,920	208	10.8
Yes	7,728	6,058	78.4	5,633	526	9.3
Ethnic background						
Asian	312	215	68.9	188	12	6.4
African American	3,313	2,617	79.0	2,346	198	8.4
Hispanic	2,552	1,947	76.3	1,838	204	11.1
Native American	648	540	83.3	513	68	13.3
White	3,621	2,781	76.8	2,664	257	9.6
Attained GED while in Even Start						
No	7,956	6,380	80.2	6,044	534	8.8
Yes	532	427	80.3	418	47	11.2
TOTAL	10,683	8,302	77.1	7,698	751	9.8

Exhibit reads: At intake, nearly three quarters (72.1 percent) of Even Start adults targeted for the evaluation were not employed. Of those who were no employed, one in ten (9.8 percent) found part-time or full-time employment while participating in Even Start.

Section Twelve

Cost of Even Start

Even Start's budget has grown steadily since its inception, from $14.5 million in 1989 to an estimated $90 million in 1993. As Exhibit 1.1 showed, this increase has enabled Even Start to fund more projects each year, so that well over 300 projects will be funded in 1993. Data on federal costs and number of families served are available for all Even Start projects, while projects in the In-Depth Study portion of the evaluation participated in a special assessment of the federal and local costs of Even Start. This study was conducted in the projects' second year of operation. The In-Depth Study projects were not randomly selected, but they do represent a reasonable cross-section of fully functioning Even Start grantees.

Cost Per Participating Family

Even Start projects engage in many functions including project administration and coordination, three core services, a range of support services, evaluation activities, recruiting, case management, and many others. One aim of this evaluation is to calculate the federal (Even Start) cost per family; a second purpose is to ascertain the full cost of all Even Start services, including federal Even Start funding, local matching funds, in-kind services or facilities, the value of other locally obtained core and support services, and other federal funding (e.g., the pro-rated cost of early childhood education obtained from Head Start or the pro-rated cost of adult basic education obtained from a local community college).

Exhibit 12.1 shows the federal cost for Even Start projects participating in the national evaluation for the first three years of program operations. The number of families and participants (adults and children) served increased greatly from 1989-90 to 1990-91, as would be expected given the increase both in number of projects funded and total federal dollars spent on the program. The number of projects in the evaluation remained constant from 1990-91 to 1991-92; however, the number of families and participants increased substantially once again (by 46 percent), indicating that projects were maturing and becoming more efficient.

Exhibit 12.1

Federal Cost for Even Start Projects, by Program Year

Measure	1989-90	1990-91	1991-92
Number of Projects	76	123	123
Total Grant Awards (millions)	$14.5	$24.2	$24.2
Total Families Served	2,460	6,596	9,668
Total Participants Served	5,672	16,143	24,799
Federal (Even Start) Cost Per Family	$5,894	$3,669	$2,503
Federal (Even Start) Cost Per Participant	$2,556	$1,499	$975

Exhibit reads: The federal (Even Start) cost for each Even Start family was $2,503 during the 1991-92 program year.

The federal cost per Even Start family has declined over time, from $5,894 in 1989-90 to $3,669 in 1990-91, and again to $2,503 in 1991-92[1]. The same pattern holds for the cost per participant--a decline from $2,556 in 1989-90 to $975 in 1991-92.

Data from projects participating in the In-Depth Study cost analysis show that Even Start projects obtain substantial amounts of support, in addition to their federal Even Start funds, in order to deliver appropriate services to participating families. As noted above, the federal (Even Start) per family cost was $2,503 in 1991-92. The In-Depth Study cost analysis found that local projects obtained additional funding of $1,352 per family, for a total of $3,855 per family (see Exhibit 12.2). Thus, federal Even Start funds comprise 65 percent ($2,503) of the total cost per family ($3,855), and other funds obtained locally (including local, state, and other federal) comprise 35 percent ($1,352) of the total cost per family. Alternatively, local projects are able to match 54 percent of their federal Even Start funds.

[1]This calculation is based on total federal costs divided by the total number of families served and is appropriate for costing policy alternatives and making comparisons among federal programs. It also is possible to calculate the federal cost per family for a typical Even Start project--the mean cost per family is calculated for each project in the study and then an average of project means is computed. This approach gives equal weight to each project (rather than to each family), and yields a cost per family of $3,634 in 1991-92. The project-based cost per family is higher than the individual-based cost per family because large projects (which serve more families at a lower per-family cost) count no more than small projects (which serve fewer families at a higher per-family cost). This approach would be appropriate if the interest is in comparing costs across projects, or in determining which types of projects are most cost-efficient.

Exhibit 12.2: Federal Even Start Cost and All Other Costs
(1991-92 Program Year)

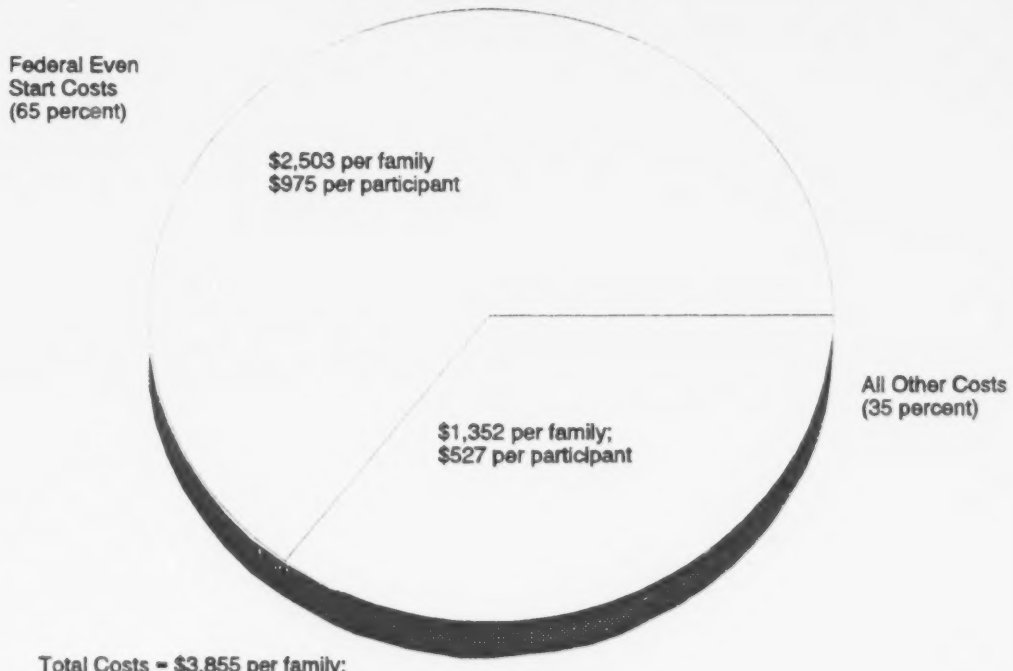

Federal Even Start Costs (65 percent)
$2,503 per family
$975 per participant
All Other Costs (35 percent)
$1,352 per family;
$527 per participant
Total Costs = $3,855 per family;
= $1,502 per participant

Exhibit reads: Sixty-five percent of total Even Start costs is provided by federal Even Start funding; 35 percent is provided by other sources including local matching, in-kind services, or facilities, the value of other locally obtained core and support services, and other federal funding (e.g., the pro-rated cost of early childhood education obtained from Head Start).

Distribution of Total Cost by Function

More than half (55 percent) of all Even Start costs (federal and all other funds) were incurred in the provision of core services: 31 percent for early childhood education, 15 percent for adult education, and 9 percent for parenting education (Exhibit 12.3). An additional 9 percent was spent on the provision of support services which are designed to enable families to participate in core service activities. Thus, almost two-thirds (64 percent) of projects' funds were spent on the direct provision of services. Remaining funds were spent for program administration and coordination (14 percent), evaluation (10 percent), case management and recruiting (4 percent), and for a variety of other functions (8 percent) such as field trips, staff meetings, clean-up, and errands.

Exhibit 12.3: Distribution of Even Start Costs (Both Federal and All Other) by Function (1991-92 Program Year)

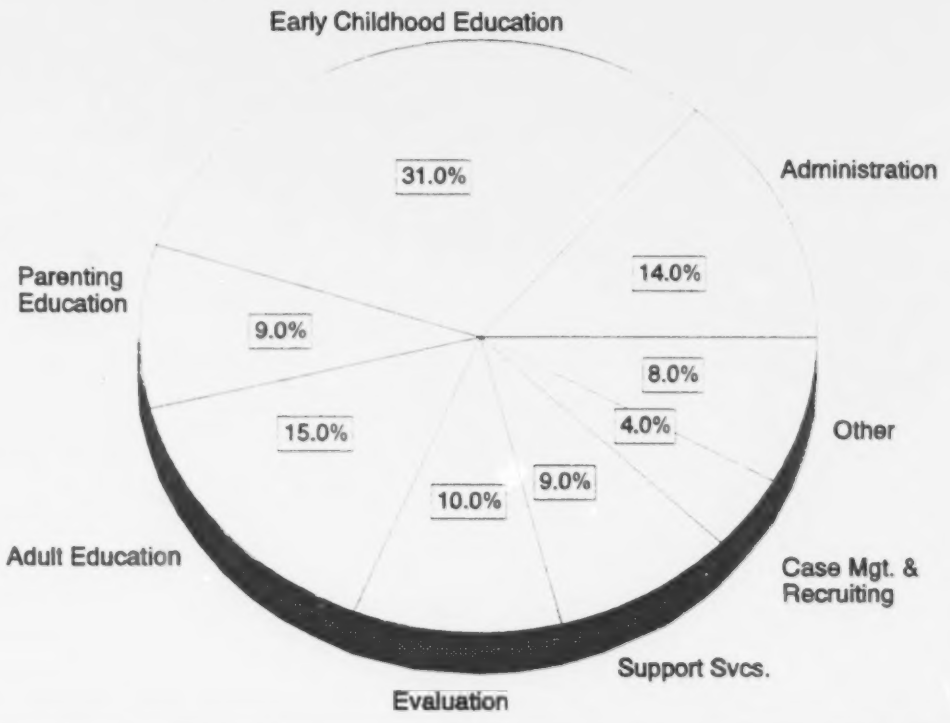


Exhibit reads: 31 percent of Even Start costs (both federal and all other) were incurred in the provision of early childhood education services.

Project Variation in Federal Cost Per Family

As with most variables investigated in this evaluation, there is great variation across projects in the amount of federal dollars spent on each family. Exhibit 12.4 shows a distribution of project-level per family costs.[2] Some projects spend relatively few federal dollars per family while other projects spend much more on a per family basis. Most projects spend between $1,000 and $5,000 federal dollars per family. However, six projects spent less than $1,000 per family, while three projects spent over $8,000 per family. Such wide variation in expenditures per family reaffirms that Even Start projects have taken very different approaches to organizing and implementing services. It also suggests that there are wide project-to-project differences in access to federal and non-federal resources outside of Even Start. For example, some projects can use locally-available adult education and early childhood education services, while others must provide those services using their federal Even Start funds.

[2]The federal cost per family at the project level is calculated by dividing the total number of families participating in core services during a year by the total federal funds received by the project for that year.

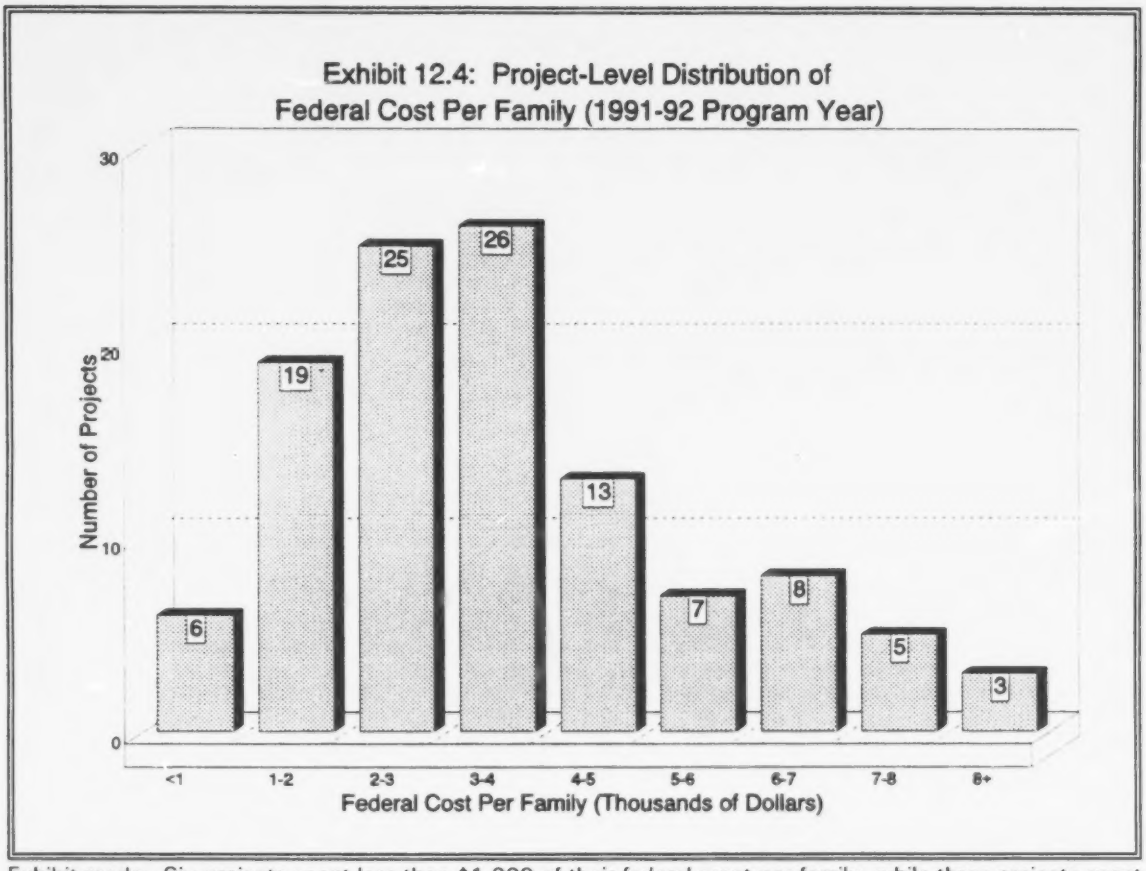


Exhibit reads: Six projects spent less than $1,000 of their federal grant per family, while three projects spent over $8,000 per family.

Information on two project characteristics that are related to cost per family is shown in Exhibit 12.5. One variable that is related to federal cost per family is the locus of primary responsibility for providing adult education and early childhood education services. As would be expected, projects which provide their own services expend more of their federal dollars on each family than projects that delegate responsibility for providing services to a cooperating agency. Eight projects retain primary responsibility for providing adult education and early childhood education. These projects spend a relatively large amount ($5,775) of their federal grant on each family because they are paying for the direct provision of services. Eighty-three projects share responsibility for providing core services with cooperating agencies. On average, these projects spend $3,579 of their federal dollars on each family. Finally, eight projects delegate primary responsibility for providing adult education and early childhood education to cooperating agencies. These projects spend an average of $1,878 of their federal dollars on each family.

A second variable that relates to the amount of a project's federal grant spent on each family is the number of families served by the project. As would be expected, projects that serve large numbers of families spend fewer federal dollars per family, while projects that serve smaller numbers of families spend more federal dollars per family.

In 1991-92, there were 18 projects which served fewer than 30 families. On average, they spent $6,312 per family. The 66 projects that served between 30 and 99 families spent $3,742 per family. And finally, the 28 largest projects, which served 100 or more families did so at a federal cost of $1,659 per family.

Exhibit 12.5

Federal Cost Per Family by Project Size and Locus of Responsibility for Core Services (1991-92 Program Year)

Project Characteristic	Number of projects	Average Grant Per Participating Family
Locus of primary responsibility for adult education and early childhood education services		
Even Start	8	$5,775
Both	83	$3,579
Cooperating agency	8	$1,878
Number of participating families		
Less than 30 families	18	$6,312
30-99 families	66	$3,742
100 or more families	28	$1,659

Exhibit reads: Projects responsible for directly providing core services had higher costs than projects which relied on cooperating agencies. Small projects had higher costs than large projects.

Note: Only projects reporting at least ten participating families were included in the analysis.

Section Thirteen

Summary

This section summarizes the findings contained in this report. The reader should realize that the analyses presented here will be expanded upon in the final report from this evaluation.

Characteristics of Even Start Participants

Based on data reported for the 1989-90, 1990-91, and 1991-92 program years, Even Start projects are serving the intended population. All of the participating Even Start households had at least one child between the ages of zero and seven, 77 percent of the adults who participated in Even Start core services did not complete high school, and 69 percent of Even Start families had total annual income under $10,000. The Even Start population can be further described as follows:

- 48 percent of Even Start families describe themselves as couples with children, 39 percent are single parent households, and 13 percent have extended families or other living arrangements.
- 47 percent of Even Start families report job wages as their primary source of financial support, while 52 percent report that government assistance is their primary source of support.
- Most adults in Even Start are between the ages of 22-29 (47 percent) or 30-39 (31 percent).
- 45 percent of Even Start adults are white, 27 percent are African-American, 18 percent are Hispanic, 6 percent are Native American, and three percent are Asian or Pacific Islander.
- English is the primary language for 72 percent of Even Start adults; Spanish is the primary language for 22 percent.
- Nine percent of the children served by Even Start were identified as having a disability.

Implementation of Even Start Projects

About $24 million was spent to fund 123 Even Start projects during the 1991-92 program year. This was the third year of program operations for 76 of the projects, and the second year of operations for 47 projects.

Core Services Delivered Through Even Start

All Even Start projects are required to provide three "core services" for the education or instruction of adults and children: (1) parenting education services that assist parents in developing the capacity to function as teachers for their children, (2) adult education services that develop literacy skills of parents, and (3) early childhood education services that meet early education needs of children. As specified in the law, these core services can be provided either by staff funded through Even Start or by staff funded by cooperating agencies. In addition to the three core services, Even Start projects are required to provide educational and instructional services that involve parents and their children in joint activities, and to provide some of these activities in the home.

Parenting Education Services. Even Start projects provided a wide range of services to help parents raise their children. For example, projects helped families make use of services provided by other social agencies, emphasized parents' role in the education of their children, oriented parents and children to school routines, furnished information about child development, trained parents in child behavior management, worked to build parental self-esteem, and instructed parents in life skills and in health and nutrition. Each of these different types of parenting education was provided by 90 percent or more of the Even Start projects. Depending on the specific service, 34 to 55 percent of the Even Start projects provided parenting education directly, 36 to 54 percent shared provision with a cooperating agency, and 5 to 10 percent delegated provision of parenting education to a cooperating agency.

Adult Education Services. Almost 100 percent of the projects reported that they provided services to prepare adults to attain a GED, 86 percent provided services in adult education, and 92 percent provided services in adult secondary education. Instruction in English as a second language was provided by 59 percent of the projects. The locus of responsibility for providing adult education services differs from that of parenting education. About 30 percent of the projects provided adult education services directly by Even Start staff, another 30 percent of the projects provided services through cooperating agencies, and about 25 percent of the projects provided services jointly by Even Start and cooperating agency staff.

Early Childhood Education Services. Children in Even Start projects were provided with a range of early childhood education services. Three different preschool options were used, with many projects using combinations: (1) 72 percent of the projects enrolled some of their children in Head Start, (2) 46 percent of the projects enrolled some of their children in a Chapter 1-funded pre-K program, and (3) 93 percent of the projects provided some other preschool option. For children old enough to enter the public schools, most

Even Start projects participated in joint planning activities with the public schools. Hence, 85 percent of the projects included kindergarten as an Even Start service, and 74 percent of the projects provided early childhood education services to children under eight years of age who were in primary grades, again through the vehicle of joint planning with the public schools.

As would be expected, all Head Start and Chapter 1 pre-K services were provided by cooperating agencies. About 38 percent of the "other preschool" services were provided directly by Even Start staff. This distribution is not surprising given the high cost of early childhood education services and their general availability through cooperating agencies and the public schools.

Adult/Child Services Delivered Through Even Start

Almost all of the Even Start projects (more than 90 percent) reported that they delivered a wide range of core services to parents and children together. This is an important part of the Even Start model in that it impresses on parents that they are a key to their child's education. Examples of services delivered to adults and children together include reading and story telling, developing readiness skills, social development and play, development of gross motor skills, working with numbers, arts/crafts, and health/nutrition.

Support Services Delivered Through Even Start

Even Start projects used funds to provide many different kinds of support services designed to enable families to participate in the core services. Support services remove barriers that, if unattended, restrict a family's ability to receive instructional and educational services. Several types of support services were provided by 85 percent or more of the projects including transportation, referrals for employment services, mental health services, family advocacy assistance with government agencies, child care, meals, counseling, nutrition assistance, and health care assistance.

Across all types of support services, Even Start projects provided 22 percent directly, cooperating agencies provided 27 percent directly, and Even Start and cooperating agencies jointly provided another 28 percent. These findings suggest that Even Start projects did, as planned, obtain many existing support services from existing providers and stepped in to provide more immediate support services to enable families to participate in core services.

Cooperative Arrangements

Even Start projects are required to establish cooperative arrangements with other agencies to avoid duplicating services. This strategy allows optimal use of limited resources and allows projects to concentrate on providing new services to fill service gaps. Collaboration and cooperative arrangements were, indeed, a key focus of Even Start projects. During the 1991-92 program year, Even Start projects were involved in 2,808

cooperative arrangements to provide core services. This is an average of 27 cooperative arrangements per project. Fifty percent of the arrangements were for parenting education, 24 percent were for adult basic education, and 26 percent were for early childhood education. The most common cooperators were "other departments and programs within the public schools," "local, county, state or tribal agencies," and "postsecondary institutions."

Implementation Problems

Even Start projects reported several barriers to project implementation. The most common barriers were difficulties in the recruitment, retention, attendance, and motivation of families (41 projects), problems of communication and coordination with cooperating agencies (28 projects), financial problems (20 projects), staffing problems (16 projects), problems with facilities and space (16 projects), and problems with the evaluation (15 projects).

Participation in Even Start

Number of Participating Families

Participation in Even Start has been increasing over time. This is due both to the addition of new projects and to improved efficiency among existing projects. The number of families served by the 76 projects first funded in the fall of 1989 increased from 2,460 in 1989-90 to 4,790 in 1990-91 and again to 5,567 in 1991-92. Thus, the same projects, with the same level of resources served more than twice as many families in their third year of operations as in their first year.

This large increase over time in the number of families served can be attributed to the projects' ability to solve implementation problems that occur during the first year of program operations, for example, time had to be spent defining the program, recruiting staff, and setting up operations. Once these problems were solved projects became more efficient, with the extra time and resources being devoted to recruiting and serving additional families.

Length of Participation

Although Even Start projects are funded for four years, very few families take part for that amount of time. Of the families that began Even Start in 1989-90, 55 percent participated only in that first year, 25 percent participated in both the first and second program years, and 20 percent participated in three years. This pattern improved for families in projects that were first funded in 1990, where 28 percent of the families participated for one year, and 72 percent continued into a second year.

Reasons for Exiting

There are many reasons for turnover of families in Even Start; some are indicators of program success, while others signal problem areas. Based on families that reported a reason for leaving, completion of the planned educational program was listed by 27 percent of families that exited Even Start. Moving out of Even Start's catchment area was the most common reason for leaving the program, listed by 31 percent of families that exited. Fourteen percent of the families left because of a general lack of interest in the program. Another 14 percent reported that a family crisis of one sort or another prevented them from participating. Seven percent left the program because they became ineligible due to a change in the family situation, i.e., there was no longer an eligible child or adult in the family. Six percent gave a variety of reasons which suggested personal or structural conflicts or barriers to continued participation. These included medical reasons, work conflicts, pregnancy, scheduling conflicts, child care problems, and a lack of transportation.

Participation in Core Services

The Department of Education requires that all Even Start families participate in each of the three core service areas during their time in the program. Almost all families had a child that participated in early childhood education during each year of the study: 90 percent in 1989-90, 97 percent in 1990-91, and 98 percent in 1991-92. Participation rates for parenting education also were quite high: 88 percent in 1989-90, 94 percent in 1990-91, and 93 percent in 1991-92. At the beginning of Even Start, participation rates were low for adult education; 54 percent in 1989-90. The Department of Education and local projects worked hard to increase these rates to 79 percent in 1990-91 and to 90 percent in 1991-92. The percentage of families participating in all three core services increased steadily over the three years of study, from 46 percent to 74 percent to 84 percent.

Amount of Core Services Received

The typical family received core services in an average of between six and seven different months during their period of enrollment in Even Start. The total amount of service received by the typical family is 39 hours for adult education (mean of 86 hours), 27 hours for parenting education (mean of 49 hours), and 84 hours for early childhood education (mean of 189 hours). There is great variation in these numbers across projects.

On a monthly basis, the typical Even Start family received 8 hours of adult education (mean of 13 hours), 4 hours of parenting education (mean of 7 hours), and 14 hours of early childhood education (mean of 25 hours). There is a clear relationship between amount of early childhood education and age of child. The typical Even Start child less than one year of age received 4 hours per month. This amount increased to 5 hours per month for one-year-olds, 9 hours per month for two-year-olds, 14 hours per month for three-year-olds, and 22 hours per month for four-year-olds.

The Short-Term Effects of Even Start

Implementation of an Even Start project should lead to an increase in the amount of services received by families in each core service area. Appropriate support services also should be provided. While information on the types and quantities of core services provided to Even Start participants was discussed above, a key issue for attributing any observed pretest-posttest gains to Even Start as opposed to other factors is the extent to which Even Start has been able to increase families' participation in the three core service areas over what it would have been in the absence of Even Start.

Data from this study show that Even Start has substantially increased participation rates in the three core service areas. We estimate that without Even Start, 30 to 40 percent of the Even Start population would take part in adult education. This is substantially less than the 90 percent participation rate achieved for Even Start families during the 1991-92 program year. For parenting education, participation increases from eight percent without Even Start to 93 percent for families in Even Start. And for early childhood education, participation rates are estimated to be about 60 percent in the absence of Even Start and 98 percent for families in Even Start. These increases in service levels give us confidence in attributing observed gains to Even Start rather than to extraneous factors such as normal maturation.

Data to assess the short-term effects of Even Start are available from two sources: the In-Depth Study which involved random assignment of families to participate in Even Start or in a control group, and the NEIS which provides national-level data on participating families. Short-term effects are measured in four areas: children, parenting literacy, parenting skills, and families.

Exhibit 13.1 summarizes the short-term effects of Even Start as reported in this evaluation. It shows positive effects on many measures, especially when measured via the NEIS. The In-Depth Study, with its stronger research design, provides a more conservative assessment and shows fewer positive effects. What are we to make of the differences in findings between the NEIS and the In-Depth Study? First, we should recognize that there are no contradictions in the two sets of results. That is, across all of the outcome measures, there are no cases where one data set showed that Even Start had a positive effect while the other data set showed that Even Start had a negative effect. This is important, because it indicates that the differences between the two sets of results are differences of intensity rather than differences in direction.

Second, all things being equal, we would believe findings from the In-Depth Study over findings from the NEIS. This is because the In-Depth Study has a stronger research design, including a randomly-assigned control group. However, not all other things are equal, and the In-Depth Study has weaknesses. It overrepresents Hispanics, and it has

Exhibit 13.1

Summary of Even Start Effects

Outcome Measure	IDS	NEIS
Children		
PreSchool Inventory	+	+
Peabody Picture Vocabulary Test	o	+
Child's Emergent Literacy Test	o	na
Parents: Literacy levels		
Comprehensive Adult Student Assessment System	o	+
Attainment of a GED	+	+
Reading activities at home	o	na
Writing activities at home	o	na
Parents: Parenting and personal skills		
Personal skills		
Depression scale	o	na
Self efficacy	o	na
Home learning environment		
Talking with child	o	+
Play materials in home	o	+
Number of children's books in home	o	+
Reading to child	o	+
Reading materials in home	+	+
Learning activities at home	o	+
Teaching child	o	+
Family rules	o	na
Activities with child	o	na
Parent as a Teacher	o	+
Parent/child reading task		
Parent describes book	o	na
Parent questions/responds to child	o	na
Child responds	o	na
Parent's general affect	o	na
Child's general affect	o	na
Parents' expectations and involvement		
Expectations for school success	+	+
Expectations for high school graduation	o	+
Families		
Social support scale	o	na
Family resources		
Source of income	o	na
Income level	o	na
Adequacy of resources	o	na
Employment	o	o

Notes:
+ signifies a positive program effect.
o signifies no program effect.
- signifies a negative program effect.
na means the measure was not included in this part of the study.

a relatively small sample size -- 200 families from five projects. Thus, the statistical power of the In-Depth Study is substantially lower than the power of the NEIS.

To sum up, the In-Depth Study and the NEIS data always point in the same direction, but in many cases the treatment/control group differences in the In-Depth Study are not statistically significant. If the In-Depth Study sample size was larger, then the same size treatment/control group differences would lead to more positive effects, as is seen in the NEIS.

Even with the lack of power in the In-Depth Study, the overall picture is encouraging. Data from both the NEIS and the In-Depth Study show positive effects for children and for parents. There are no positive effects for families, but the outcomes (e.g., income, employment) in this area tend to be ones that Even Start does not expect to change in the short term. It will be important to determine whether the positive short-term effects for children and parents deteriorate over time or whether they are maintained, and whether it is possible to detect long-term effects for families.

Effects on Children

Effects on children were assessed using three measures: the PreSchool Inventory, the Peabody Picture Vocabulary Test, and the Child's Emergent Literacy Test.

The PreSchool Inventory (PSI). The PSI is a 32-item individually-administered measure that assesses a range of school readiness skills, e.g., identifying shapes and colors, and understanding numerical concepts. It requires 15 minutes to administer and is appropriate for children between the ages of three and five.

Because the PSI measures school readiness skills, children's scores on the PSI improve with age, simply as a function of maturation. This study found that children's PSI scores increase by .42 items per month due to normal maturation/development. However, by participating in Even Start, children's PSI scores increase at more than double the expected rate, by .92 items per month. This finding is based on data from the NEIS and is confirmed by data from the In-Depth Study which show that Even Start children gain significantly more than control group children on the PSI.

This accelerated rate of learning on the PSI means that as Even Start children enter the public schools they are more likely to know basic concepts and precursors of kindergarten skills than they would have in the absence of the program.

The Peabody Picture Vocabulary Test (PPVT). The PPVT measures receptive (hearing) vocabulary, and gives a quick estimate of verbal or literacy-related skills. An individually-administered test, it requires 15 to 20 minutes per child and is appropriate for children between the ages of two and 18. Whereas the PSI measures school readiness, the PPVT assesses verbal or language skills.

Unlike the PSI, the PPVT has national norms. When administered the PPVT as a pretest, prior to entry into the program, Even Start children averaged 82 standard score points.

This corresponds to the twelfth percentile nationally and highlights the low verbal skills of children at entry to Even Start.

Also unlike the PSI, the In-Depth Study and the NEIS tell different stories for the PPVT. Findings from the In-Depth Study show no significant program effect. On the other hand, data from the NEIS indicate that Even Start children gain more than would be expected without the program (0.83 standard score points per month while in Even Start vs. an expected gain of 0.0 points per month). It is possible that Even Start is having a positive effect on the PPVT, that we are seeing that effect on the NEIS, but that we are not able to detect the effect in the In-Depth Study because of a combination of small sample size and overrepresentation of Hispanic children who, on average, do not gain as much on the PPVT as African-American children or white children. Additional data which may lead to firmer conclusions will be presented in the final report from this evaluation.

Child's Emergent Literacy Test (CELT). The CELT was developed for this evaluation because no existing measure of children's emergent literacy skills was ideally suited to Even Start participants. The CELT includes items assessing orientation and directionality of text, recognition or letters and punctuation, purposes of reading, and children's knowledge and skills in writing their own name and age.

The CELT was administered only in the In-Depth Study. While children in Even Start gained a statistically significant amount from pretest to posttest, children in the control group also gained a small amount, and the program effect (the gain of Even Start children over and above the gain of control group children) was not statistically significant.

Effects on Parent Literacy

This evaluation measured effects on parent literacy skills in three areas: (1) functional literacy levels on a reading test, (2) the percentage of Even Start adults who obtained their GED certificate, and (3) reading and writing activities in the home.

The Comprehensive Adult Student Assessment System (CASAS). The CASAS is an adult-oriented functional assessment system that measures a broad range of adult literacy skills and their application in real life domains including consumer economics, government and law, occupational knowledge, community resources, and health. This evaluation used only the CASAS reading survey.

Even Start projects may have been effective in improving the functional literacy of participating adults. Data from the NEIS show that adults who participate in Even Start achieve small (3.6 scale score points), but positive gains on the CASAS reading survey, gains which are comparable in size to those observed in other studies of adult education programs. However, data from the In-Depth Study show that the gains of Even Start adults are not significantly greater than the gains achieved by a randomly-assigned control group. Both the NEIS and the In-Depth Study show that the amount of gain on the CASAS is directly related to the amount of instruction received through Even Start, and this finding strengthens our confidence that the observed gains can be attributed to the increase in adult education participation achieved by Even Start projects. The keys to

enhancing program effects in this area may be to strive for the fullest possible participation in adult education and for an increase in the number of hours per month.

Attainment of a GED. Even Start projects promote attainment of a high school diploma or a high school equivalency diploma such as the GED, as do most adult education programs. The rationale for this goal is based upon a belief that a diploma or GED increases the chance the adult will find employment, provides opportunities for higher wages, and improves the quality of life through enhanced self-esteem. However, GED attainment is not an immediate or appropriate goal for all participants, nor is it emphasized by all Even Start projects.

Even Start has a clear, positive effect on GED attainment, an effect which is supported by data from both the In-Depth Study and the NEIS. The NEIS shows that 7.1 percent of all adults who entered Even Start without a GED or diploma achieved one while participating for a year or less in adult education services. The In-Depth Study supports the NEIS -- it shows that 14.3 percent of participating adults in Even Start families attained a GED compared to 3.6 percent of participating adults in control group families.

Compared to the total number of adults served, those that do attain a GED represent a relatively small percentage. One hypothesis is that a lack of retention and active participation in Even Start present major barriers to GED attainment. Most participants do not stay with the program long enough to overcome the lack of schooling, low English proficiency, poor test taking skills, or other reasons for not obtaining a diploma or GED. Some of the adults who had not attained a GED at the end of the reporting year for this analysis remain in Even Start and may, yet, achieve this goal. Data on this topic will be available for the evaluation's final report.

Reading and Writing in the Home. Two sets of questions were included in the In-Depth Study to ask parents about their own reading and writing habits in the home. No measurable program effect was detected on the extent to which parents use reading and writing as literacy tools in the home.

Effects on Parenting Skills

In this evaluation, parenting skills were broadly defined to include parents' personal skills that may affect parenting, the activities and materials available in the home to foster children's development, parents' approach to reading to their children, and parents' expectations for their children.

Personal Skills. Personal skills were assessed only in the In-Depth Study. One measure of parents' personal skills is the CES-D scale of depressive symptoms. Scores above a certain level on the CES-D are an indication of clinical depression, and according to this criterion, 45 percent of Even Start parents in the In-Depth Study sites were clinically depressed at the pretest. These results are similar to those reported in other studies of low-income populations. However, we did not detect any effect of Even Start on the incidence of depressive symptoms.

A second measure of parents' personal skills is Pearlin and Schooler's Mastery Scale, a measure of self-efficacy or locus of control. As with depressive symptoms, we did not detect any effect of Even Start on parents' self-efficacy.

Home Learning Environment. Several scales describing different aspects of the home learning environment were included both in the In-Depth Study and in the NEIS. The In-Depth Study found positive program effects only on one of these scales: reading materials in the home. This scale measures the number of different types of reading materials found in the home, e.g., books, magazines, newspapers. Although Even Start families showed positive gains on another scale (amount of play materials in the home), these gains were not significant given changes in the control group. No change was observed for several other scales including measures of learning activities in the home, teaching child at home, talking with child at home, family rules, activities outside home, and the parent as a teacher scale.

On the other hand, data from the NEIS survey of all Even Start families show small but statistically significant gains on each measure of the home learning environment. The size of the gains are roughly what was seen for the In-Depth Study, however the NEIS data are based on a much larger sample which allows greater statistical power. Without a control group it is difficult to tell whether the observed gains are attributable to Even Start, and so the effects of Even Start on the home learning environment are mixed: we see clear, positive effects only on the amount of reading materials in the home, but there are indications that gains may be occurring in other areas.

Parent-Child Reading Task. The In-Depth Study included a newly-developed measure of parent-child reading interactions. The parent was asked to read a simple book to her child, while a trained observer used a pre-coded rating form to record five major aspects of parent-child interactions: parent describes book to child, parent questions or responds to child, child responds, parent's general affect, and child's general affect.

There was no effect of Even Start on any of the five areas of observation. While children did show a significant increase in their involvement and interaction during the reading activity (child's general affect) this increase was not significant over and above the change seen for the control group.

Parental Expectations. In both the In-Depth Study and the NEIS, parents were asked questions about how well they expected their child to do in high school and the likelihood that their child will graduate from high school. As is the case for such questions in most studies, parents generally had high expectations for their children at the pretest. Even so, Even Start significantly increased parental expectations as assessed in both the In-Depth Study and the NEIS.

Effects on Families

The In-Depth Study included several measures of the effects of Even Start on participating families, including their perceived social support, adequacy of financial resources, income level and sources and employment status. The NEIS instruments had questions about

income and employment. Across these measures, gains from program entry to the end of the first program year were minimal. It is possible that these areas are difficult to change because they are affected by circumstances beyond the control of the program, such as the local economy and the availability of jobs. It is also likely that these indices will not show large changes in the short-run, but instead require longer interventions and other positive short-term impacts in order to achieve significant gains.

While there are few effects for families on these quantifiable variables, Even Start participants describe a number of qualitative changes in their lives and the lives of their children. Listening to the personal stories of program participants, it becomes apparent that most of the changes in attitudes and skills that the parents see in themselves and their children are positive short-term impacts of the program. Parents describe themselves as moving toward their goals of an educational certificate, getting a job and being a better parent. Given the current status of Even Start parents, it is reasonable that we do not yet see changes in the more distal outcomes of increased employment and income.

Cost of Even Start

The federal cost per Even Start family has declined over the life of the program, from $5,894 in 1989-90 to $3,669 in 1990-91, and again to $2,503 in 1991-92. This is due to increases in the number of families served each year, indicating that over time, projects have matured and become more efficient.

Even Start projects also obtain substantial resources (e.g., matching funds, in-kind contributions, and the value of referred services), in addition to their federal Even Start funds, in order to deliver appropriate services to participating families. In 1991-92, $2,503 in federal funding per family was augmented by $1,352 in other resources to arrive at total resources of $3,855 per Even Start family. Thus, federal Even Start funds comprise 65 percent of the total resources per family and other funds comprise 35 percent.

Almost two-thirds (64 percent) of all Even Start resources were spent on the direct provision of services: 31 percent for early childhood education, 15 percent for adult education, 9 percent for parenting education, and 9 percent for support services. Even Start funds also were spent for program administration (14 percent), evaluation (10 percent), case management and recruiting (4 percent), and for a variety of other functions (8 percent).

Even Start costs vary tremendously across projects. As might be expected, projects which serve large numbers of families do so at a lower cost per family. In particular, projects which serve 100 or more families do so at a federal cost of $1,659 per family, while projects which serve 30 or fewer families spend an average of $6,312 per family. Also, projects which delegate responsibility for providing core services to cooperating agencies have a lower cost ($1,878 per family) than projects which retain primary responsibility for providing core services (cost of $5,775 per family).

References

Abt Associates Inc.
(June 1991) *Preschool Inventory Administration Manual*. Cambridge, MA: Abt Associates Inc.

Abt Associates Inc.
(September 1991) *Child's Emergent Literacy Test: Administration Manual*. Cambridge, MA: Abt Associates Inc.

Administration on Children, Youth and Families
(January 1992) *Project Head Start Statistical Fact Sheet*. Washington, DC: U.S. Department of Health and Human Services.

Bache, W.
(1980) A psychometric analysis of the National Day Care Study: Phase III child test battery. *Technical appendices to the National Day Care Study: Measurement and Methods. Volume IV-B*. Cambridge, MA: Abt Associates Inc.

Baker, P and Mott, F.
(June 1989) *NLSY child handbook 1989: A guide and resource document for the National Longitudinal Study of Youth 1986 Child Data*. Columbus Ohio: Center for Human Resource Research, The Ohio State University.

Barbara Bush Foundation for Family Literacy
(1990) *First Teachers*. Washington, D.C.: The Barbara Bush Foundation for Family Literacy.

Barnett, S.
(1993) Does Head Start fade out? *Education Week*, May 19, p. 40.

Barrera, M., Jr.
(1981). Social support in the adjustment of pregnant adolescents: Assessment issues. In B.H. Bottlieb (Ed.), *Social Networks and Social Support in Community Mental Health*. Beverly Hills: Sage.

Barrera, M., Jr.
(no date). *Notes on the ISSB*.

Caldwell, B.M., and Bradley, R.H.
(1984). *Home Observation for measurement of the environment.* Little Rock, AK.

CASAS
(December 1990) *GAIN Appraisal Program: Fourth report*. San Diego, CA: CASAS.

CASAS
(July 1991) *CASAS statewide accountability system for federally funded 321 adult basic education programs*. San Diego, CA: CASAS.

CASAS
(1992) *Student progress and goal attainment in California's federally funded ABE programs*. San Diego, CA: CASAS.

Chomsky, C.
(1972) Stages in language development and reading exposure. *Harvard Educational Review*, 42, 1-33.

Cleary, P.D.
(1988) Social support: Conceptualization and measurement. In H.B. Weiss and F.H. Jacobs, (Eds.), *Evaluating Family Programs*. Hawthorne, NY: Aldine de Gruyter.

Cochran, M.M. and Brassard, J.A.
(1979) Child development and personal social networks. *Child Development*, 50, 601-616.

CTB/McGraw-Hill
(1970) *Preschool Inventory, Revised Edition 1970: Handbook*. Monterey, CA: CTB/McGraw-Hill.

Darling, S. and Hayes, A.
(1989) *Breaking the cycle of illiteracy: The Kenan family literacy model program, final report 1988-89*. Louisville, KY: The National Center for Family Literacy.

Development Associates
(March 1992) *National Evaluation of Adult Education Programs. First interim report: Profiles of service providers*. Arlington, VA: Development Associates.

Dunn, L., and Dunn, L.
(1981) *PPVT-R Manual for Forms L and M*. Circle Pines, MN: American Guidance Service.

Dunn, L., Padilla, E., Lugo, D., and Dunn. L.
(1986) *Examiner's Manual for the Test de Vocabulario en Imagenes Peabody*. Circle Pines, MN: American Guidance Service.

Dunst, C., Trivette, C. and Deal, A.
(1988) *Enabling and Empowering Families: Principles and Guidelines for Practice*. Cambridge, MA: Brookline Brooks.

Dunst, C. and Leet, H.
(1987) Measuring the adequacy of resources in households with young children. *Child Care, Health and Development*, 13, 111-125.

Edwards, P.
(1989) Supporting lower SES mothers' attempts to provide scaffolding for book reading. In J. Allen and J. Mason (Eds.). *Risk Makers, Risk Takers, Risk Breakers*. Portsmouth, NH: Heinemann.

Glantz, F., Layzer, J., and Battaglia, M.
(August 1988) *Study of the Child Care Food Program: Final Report*. Cambridge, MA: Abt Associates Inc.

Gottlieb, B.H.
(1976) Lay influences in the utilization and provision of health services: A review. *Canadian Psychological Review*, 17, 126-36.

Hall, L.A., Williams, C.A., and Greenberg, R.S.
(1985) Supports, stress, and depressive symptoms in low-income mothers of young children. *American Journal of Public Health*, 75 (5), 518-22.

Harrell, A.
(September 1983) *The effect of the Head Start program on children's cognitive development*. Washington DC: CSR, Incorporated.

Health, S.
(1983) *Ways With Words*. New York: Cambridge University Press.

Herr, T., Halpern, R., and Conrad, A.
(April 1991) *Changing what counts: Rethinking the journey out of welfare*. Evanston, IL: Center for Urban Affairs and Policy Research, Northwestern University.

High/Scope Educational Research Foundation
(1973) *The National Home Start Evaluation. Interim Report III: Summative evaluation results*. Ypsilanti, MI: High/Scope.

High/Scope Educational Research Foundation and Abt Associates Inc.
(1975) *The National Home Start Evaluation. Interim report VI.* Ypsilanti, MI: High/Scope and Abt Associates.

Hubbell, R. et al.
(December 1991) *Comprehensive Child Development Program--A national family support demonstration: First annual report.* Washington, DC: CSR Incorporated.

Infant Health and Development Program
(1990) Enhancing the outcomes of low-birth-weight, premature infants. *Journal of the American Medical Association*, Vol. 263, No. 22, June 13, 3035 - 3042.

Lancy, D. and Draper, K.D.
(1988) *Parent's Strategies for Reading To and With Third Children.* Paper presented at American Education Research Association Annual Meeting, New Orleand.

Layzer, J.I., Goodson, B., and Layzer, J.A.
(1990) *Evaluation of Project Giant Step. Year two report: The study of program effects.* Cambridge, MA: Abt Associates Inc.

Lazar, I., Hubbell, R., Murray, H., Rosche, M., and Royce, J.
(October 1977) *The persistence of preschool effects: A long-term follow-up of fourteen infant and preschool experiments.* Washington, DC: Report by the Consortium on Developmental Continuity to the Administration on Children, Youth and Families.

Mason, J.M. and Allen, J.
(1986) A review of emergent literacy with implications for research and practice in reading. In E.Z. Rothkopf (Ed.), *Review of Research in Education*, Volume 13. Washington, DC: American Educational Research Association.

McLoyd, V.C.
(1990) The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*, 61, 311-346.

Murray, S., Langhorst, B., St.Pierre, R., and Swartz, J.
(January 1993) *Evaluating program effectiveness for the national Even Start evaluation: Deriving estimates of effect from reference groups.* Portland, OR: RMC Research Corporation.

Nickse, R.
(1990) *Family and Intergenerational Literacy Programs*. ERIC Clearinghouse on Adult, Career, and Vocational Education, Number RI88062005.

Nickse, R.
(1989) *The noises of literacy: An overview of intergenerational and family literacy programs*. ERIC ED 308415.

Ninio, A. and Bruner, J.
(1978) The achievement and antecedents of labeling. *Journal of Child Language*, 5, 1-15.

Parker, S., Greer, S., and Zuckerman, B.
(1988) Double jeopardy: The impact of poverty on early child development. *The Pediatric Clinics of North America*, 35, (6), 1227-1240/

Pearlin, L.J. and Schooler, C.
(1978) The structure of coping. *Journal of Health and Social Behvaior*, 19, 2-21.

Pellegrini, A., Brody, G., and Sigel, I.
(1985) Parents' teaching strategies with their children. *Journal of Psycholinguistic Research*, 14, 509-521.

Pellegrini, A., Perlmutter, J., Galda, L., and Brody, G.
(1990) Joint reading between black Head Start children and their mothers. *Child Development*, 61, 443-453.

Puma, M., Jones, C.C., Rock, D., and Fernandez, R.
(1993) *Prospects: The Congressionally Mandated Study of Educational Growth and Opportunity*. Bethesda, MD: Abt Associates Inc.

Radloff, L.S.
(1977) The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*.

Rickard, P., Stiles, R., and Martois, J.
(1989) *Psychometric background and measurement issues related to the development of the CASAS*. San Diego, CA: CASAS.

Resnick, M.B., et al.
(1987) Mothers reading to infants: A new observational tool. *The Reading Teacher*, 40, 888-895.

Snow, C. and Ninio, A.
(1986) The contribution of reading books with children to their linguistic and cognitive development. In W. Teale and Sulzby, E. (Eds.) *Emergent Literacy: Reading and Writing*. Norwood, NJ: Ablex.

Snow, C., Barnes, W.S., Chandler, J., Goodman, I.F., and Hemphill, L.
(1991) *Unfulfilled Expectations: Home and School Influence on Literacy*. Cambridge, MA: Harvard University Press.

St.Pierre, R. et al.
(1990) *Evaluation of the Comprehensive Child Development Program: Design Report*. Cambridge, MA: Abt Associates Inc.

St.Pierre, R., Swartz, J., Gamse, B., Nickse, R., Murray, S., Langhorst, B., Nickel, P., and Ryer, P.
(October 1991) *National evaluation of the Even Start Family Literacy Program: First year report*. Cambridge, MA: Abt Associates Inc.

St.Pierre, R., Swartz, J., Murray, S., Langhorst, B., and Nickel, P.
(February 1993) *National evaluation of the Even Start Family Literacy Program: Second interim report*. Cambridge, MA: Abt Associates Inc.

Seppanen, P. et al.
(March 1993) *Observational study of Chapter 1-funded early childhood programs: Final report*. Portsmouth, NH: RMC Research Corporation.

Sticht, T.
(January 1990) *Testing and assessment in adult basic education and English as a second language programs*. San Diego, CA: Applied Behavioral and Cognitive Sciences, Inc.

Strom, R.D.
(1984) *Parent as a Teacher inventory manual*. Bensenville, IL: Scholastic Testing Service, Inc.

Sulzby, E.
(1985) Children's emergent reading of favorite story books: A developmental study. *Reading Research Quarterly*. Summer (4), 458-481.

Teale, W.
(1986a) The beginnings of reading and writing: Written language development during the preschool and kindergarten years. In M. Sampson (Ed.) *The pursuit of literacy: Early reading and writing*. Dubuque, IA: Kendall/Hunt Publishing Co.

Teale, W.
(1986b) Home background and young children's literacy development. In W. Teale and Sulzby (Eds.) *Emergent literacy: Writing and reading*. Norwood, NL: Ablex.

Travers, J., Nauta, M., and Irwin, N.
(1982) *The effects of a social program: Final report of the Child and Family Resource Program's Infant-Toddler Component*. Cambridge, MA: Abt Associates Inc.

U.S. Department of Education
(1993) Reinventing Chapter 1: The Current Chapter 1 Program and New Directions. Final Report of the National Assessment of the Chapter 1 Program. Washington, DC: U.S. Department of Education.

Upshur, C.C.
(1988) Measuring parent outcomes in family program evaluation. In H.B. Weiss and F.H. Jacobs (Eds.), *Evaluating Family Programs*. Hawthorne, NY: Aldinede Gruyler.

U.S. General Accounting Office
(June 1993) Poor Preschool-Aged Children: Numbers Increase but Most Not in Preschool. Washington, DC: U.S. GAO

Walker, D., Bane, M.J., and Bryk, A.
(1973) *The quality of Head Start Planned Variation data*. Cambridge, MA: The Huron Institute.

Weissman, M.M., Sholomskas, D., Pottenger, M., Prusoft, B.A., and Locke, B.Z.
(1977) Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal of Epidemiology*, 106, 203-214.

Wells, G.
(1985) Preschool literacy-related activities and success in school. In D. Olson, N. Torrance, and A. Hildyard (Eds.), *Literacy, Language, and Learning: The Nature and Consequences of Reading and Writing*. New York: Cambridge University Press.